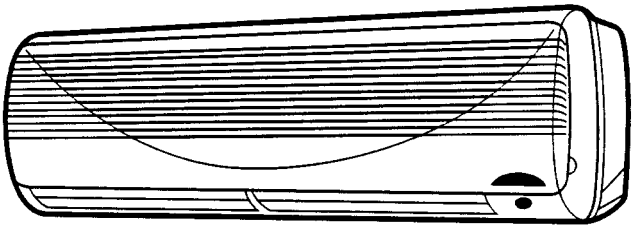
Bryant
Payne
Air Conditioning

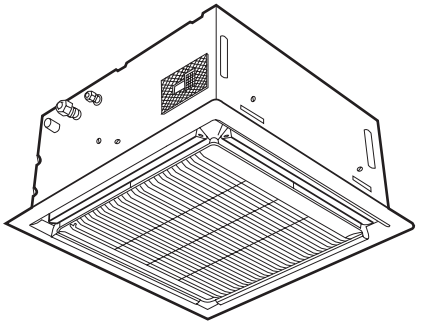
MULTI-SPLIT DUCT FREE COOLING SYSTEMS

Model 538S
Sizes 024,048
2 and 4 Tons

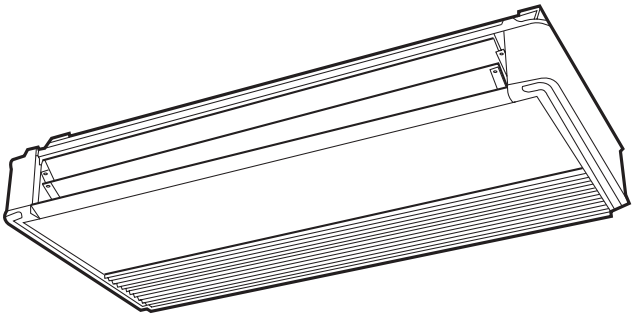
STREAMLINE
DUCT-FREE SPLIT SYSTEM



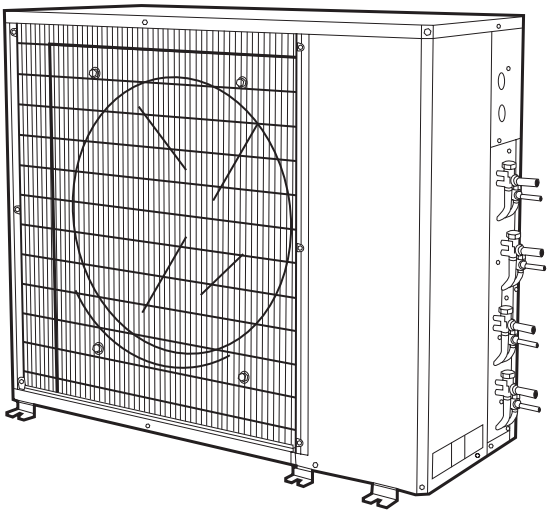
619E



619F



6 19C



538S (048 Shown)

The Ideal Complement to Your Ducted System When It Is Impractical or Prohibitively Expensive to Use Ductwork

- industry-leading features
- 3 types of compact, attractive fan coils for unparalleled flexibility in any room decor
- wide range of accessories available to meet a variety of installation requirements

FEATURES/BENEFITS

UNLIMITED FLEXIBILITY — The new 538S multi-split system has been designed to provide the utmost in flexibility and industry-leading features in a multi-zone system. The multi-split system allows 2-, 3-, or 4-zone operation through the 2 available condensing unit configurations: a 24,000 Btuh 2-zone system or a 48,000 Btuh 4-zone system.

These unique systems permit many possible fan coil combinations and incorporate high wall, ceiling suspended, and in-ceiling cassette fan coil units. The system allows mixed configurations such as one high-wall, 2 in-ceiling cassette, and one ceiling-suspended fan coil unit all operating from one 538S048 condensing unit.

SOPHISTICATED PERFORMANCE AND SIMPLE DESIGN — The units have been specifically designed to be simple to install, easy to operate, and extremely reliable. Each 538S circuit typically supplies 2 zones. When a given zone is satisfied, the microprocessor signals a solenoid valve to shut off flow to that zone. The refrigerant flow is then diverted to the active zone until that zone is satisfied. This unique design eliminates the need for the hot gas bypass function and reduces any chance of improper refrigerant volume or velocity through the system, thus enhancing performance and compressor life. The units are ruggedly built and can operate down to −20 F when equipped with the winter start kit. In addition, the multi-split condensing units use scroll compressors for reliable and efficient performance.

The multi-split system serves as an enhancement to the existing duct-free split product line by allowing multiple-system projects to be designed with a minimum number of condensing units. These systems offer savings in electrical components, installation accessories, and drastically reduced labor time. Savings are accomplished by centralizing up to 4 zones from one condensing unit. This centralization also permits simplified service and routine maintenance. Another key benefit of the systems is a dramatic reduction in sound levels due to the elimination of

noise-generating condensing units (one condensing unit per fan coil unit is required in standard split systems).

AN INEXPENSIVE AND CREATIVE SOLUTION TO DESIGN PROBLEMS — Multi-split duct-free cooling systems are a matched combination of a 538S outdoor condensing unit and up to 4 customer-selected indoor fan coil units connected only by refrigerant tubing and wires. When combined with the 538S condensing unit, the 3 fan coil choices will fit almost any application.

The fan coils can be mounted on the wall, at the ceiling, or in the ceiling. This selection of fan coils permits inexpensive and creative solutions to design problems such as:

- add-ons to current space (an office or family room addition)
- special space requirements (a computer room)
- when changes in the cooling load cannot be handled by the existing system (when adding heat-generating equipment to a currently conditioned space)
- when adding air conditioning to spaces that are heated by hydronic or electric heat no with ductwork
- historical renovations or any application where preserving the appearance of the original structure is essential

The compact indoor fan coil units take up very little space in the room and will not obstruct windows. The fan coils are attractively styled to blend with most room decors. Advanced system components incorporate innovative technology to provide reliable cooling performance at high efficiencies and low sound levels.

Duct-free split systems offer the solution of choice. The compressor is located outdoors and is linked by refrigerant lines to an indoor fan coil located directly in the room it will cool. These systems have minimal impact on the existing structure, and the design and interior of the conditioned space is not compromised by bulky ductwork. Because of these features, duct-free split systems can be installed in places where conventional ducted cooling simply cannot go.

LOW SOUND LEVELS — Minimal sound levels are synonymous with the multi-split system. When noise is a concern, the multi-split duct-free cooling system is the answer because you don't have to worry about duct design or the inherent noise associated with ducted systems. There are no compressors indoors, either in the conditioned space or directly over it. The indoor units are whisper quiet. The outdoor units operate at sound levels as low as 6.8 bels, and are the perfect answer to sound level ordinances.

When sound ordinances and proximity to neighbors demand ultraquiet operation, the 538S is the right choice: The advanced, horizontal airflow design distributes air more evenly over the coil. This design reduces local air velocity and a potential source of noise.

HIGH EFFICIENCY — With SEERs (seasonal energy efficiency ratios) of 12.0, the duct-free split systems save energy and may qualify for utility company rebates in some areas.

SECURE OPERATION — If security is an issue, outdoor and indoor units are connected only by refrigerant piping and wiring to prevent intruders from crawling through ductwork. In addition, since 538S units can be installed 6 in. away from outside walls, coils are protected from vandals and severe weather.

FAST INSTALLATION — These compact multi-split systems take only a few hours to install, since only wire and piping need to be connected. The fast and easy installation ensures minimal disruption to customers in the home or workplace. This is an added advantage of Carrier's multi-split systems, especially in retrofit situations.

SIMPLE SERVICING AND MAINTENANCE — Removing a single panel on outdoor units provides immediate access to the isolated compressor and control compartment, allowing a service technician access to check unit operation without a loss of condenser airflow. In addition, the blow-thru design of the outdoor section means that dirt accumulates on the inside surface of the coil. Coils can be cleaned quickly from the outside using a pressure hose and detergent without removing grilles or using fin combs.

The outdoor units also include a microprocessor-based control board that features expanded diagnostics through multiple LED (light-emitting diode) displays.

On indoor units, service and maintenance expense is reduced due to easy-to-change cleanable filters on all units. In addition, the high wall systems have extensive self-diagnostics to assist in troubleshooting. All units have easy-access coils and cleanable condensate pans to assist in meeting indoor air quality standards.

All refrigerant service valves are brass, front-seating type with sweat connections. The valves are externally located so refrigerant tube connections can be made quickly and easily. Each suction valve has a service port for ease of checking operating refrigerant pressures. Internal service ports are also provided to make servicing even easier.

BUILT-IN RELIABILITY — These multi-split system indoor and outdoor units are designed to provide years of trouble-free operation.

The high wall indoor units include freeze-up protection, high temperature protection, and self diagnostics. Other indoor units are protected by outdoor unit controls and have limited diagnostics available through standard or accessory 24-v thermostats.

The 538S condensing units are the only dedicated commercial units with all safety features standard to ensure high performance and lasting reliability under the most demanding conditions. For example, an accumulator safeguards the compressor against loss of lubrication, while capacitors assure dependable start-ups, especially during low voltage conditions (down to 187 v). High- and low-pressure safety switches, liquid line filter drier, and lock-out protection are standard.

NOTE: Compressor start-up delay through the controller is standard for 619C,E,F units.

The 538S unit also has a fan-cycling head pressure control system as a standard feature, which permits cooling operation down to −20 F (wind baffles and a winter start kit are also recommended).

The totally-enclosed condenser-fan motor means greater reliability under rainy conditions, ensuring dependable performance for many years.

INDIVIDUAL ROOM ZONING FOR OPTIMAL COMFORT — Maximum comfort is provided because each space can have individual set points and can be controlled based on actual usage. The air sweep feature provided on high wall and ceiling-suspended systems permits optimal room air mixing to eliminate hot and cold spots to enhance occupant comfort.

In addition, year-round comfort may be provided by combining standard cooling outdoor units with heat pump versions of some fan coil units. This combination can provide electric resistance heating capability.

ECONOMICAL OPERATION — The duct-free split system design allows individual room cooling only where required. There is no need to run large supply-air fans or chilled water pumps to handle a few spaces with unique load patterns. In addition, because air is moved only in the space required, no energy is wasted moving air through ducts.

Features like the permanent split-capacitor type motors provide more economical operation, and the rifled copper tube with louvered aluminum plate fin coils provide maximum heat transfer.

LIGHTWEIGHT, COMPACT SIZE —The small footprint of the 538S units provides additional benefits. Exclusive aeroacoustics make these units the most compact in the industry. Because they require minimal service and airflow clearances, condensing units can be located virtually anywhere — on the ground, roof, balcony, or under a deck.

The outdoor unit can be mounted on any type or weight roof, and the indoor units take up little valuable, rentable space. Because they are duct-free, not having to run large ductwork leaves additional space to be rented or utilized, making the building even more profitable.

In addition, the small size makes these units easily moveable. When floor plans change, the units can be quickly reinstalled.

EASY-TO-USE CONTROLS — The microprocessor-based control in the high-wall fan coil unit is easy to use, permitting easy changes for maximum comfort. The microprocessor offers the ultimate in comfort and efficiency. All units automatically restart and retain their memories after a power failure, eliminating unnecessary service calls and service disruption. High-wall units are equipped with a wireless remote controller. Underceiling and in-ceiling cassette units feature standard 24 v controls with new solid-state multifeatured electronic thermostats. All units may be integrated into most building control systems.

WIDE RANGE OF ACCESSORIES — Customizing the duct-free split systems to your application is easily accomplished with the many accessories available.

Accessories for the high-wall and ceiling-suspended fan coils include an internal condensate pump to provide installation flexibility. (Condensate pumps are standard on in-ceiling cassettes.) Ventilation-air capability is available as an accessory on ceiling suspended units and in-ceiling cassettes. In addition, limited ducting is available to connect in-ceiling cassettes (for example, to duct to an adjacent room).

AGENCY LISTINGS — All systems are listed with ARI (Air Conditioning & Refrigeration Institute), UL (Underwriters' Laboratories), CSA (Canadian Standards Association), and CEC (California Energy Commission).

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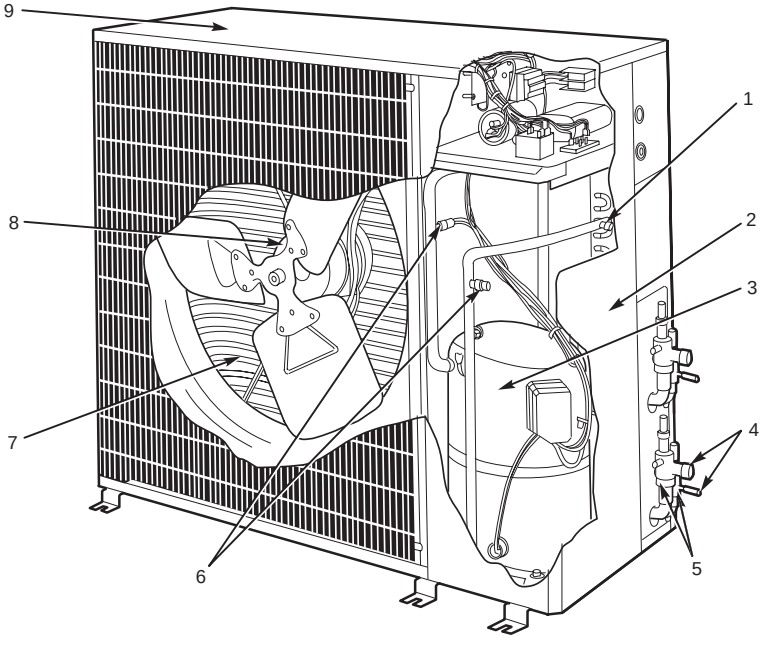
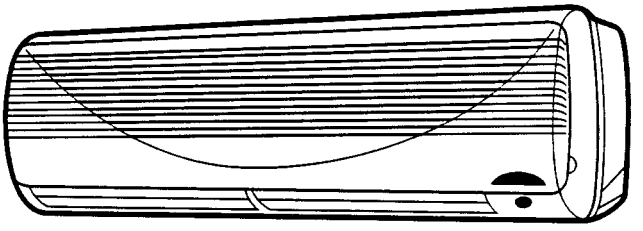


LEGEND

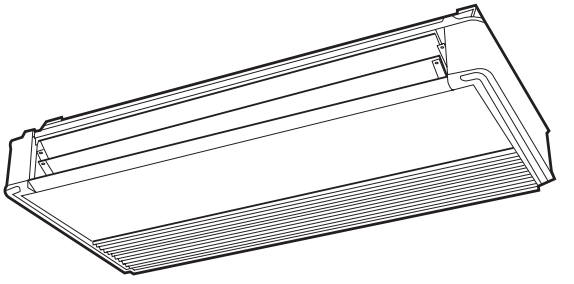
1 — Service Gage Ports
2 — Solenoid Valves and Thermostatic Expansion Valves Locations (Hidden)
3 — High-Efficiency Scroll Compressor
4 — Suction Service Gage Ports
5 — Solid Brass Service Valves
6 — High- and Low-Pressure Switches to Monitor and Safeguard Compressor
7 — Copper Tube/Aluminum Fin Coil
8 — High-Efficiency Fan Motor
9 — Weatherized Cabinet of Heavy-Duty Galvanized Steel

538S Condensing Unit (024 Size Shown)



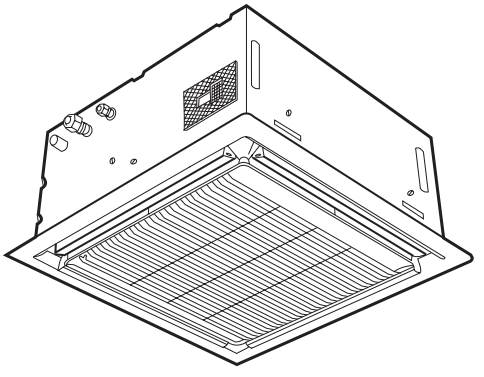
HIGH WALL FAN COILS — 619E (1½ and 2 Tons)

High wall systems are the most cost-effective duct-free split systems. They can be used on simple add-ons and retrofits where wall space is available.



CEILING-SUSPENDED FAN COILS — 619C (1½ and 2 Tons)

Use ceiling-suspended systems on office and retrofit where there is little or no wall space.



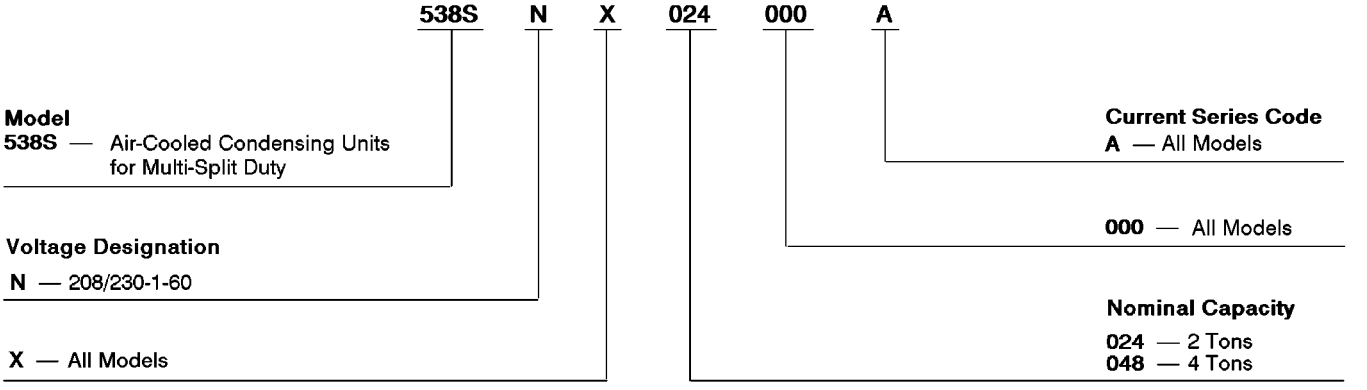
IN-CEILING CASSETTE FAN COILS — 619F (1½ and 2 Tons*)

Cassette systems are ideal for retrofit and modernization projects with standard 2-ft x 4-ft hung ceilings.

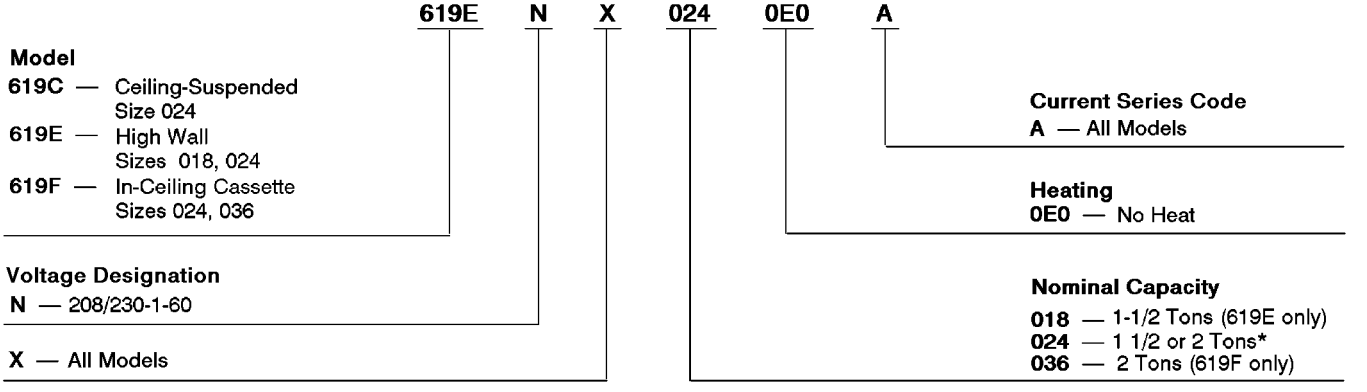
*Use size 024 for 1½ tons and size 036 for 2 tons.

MODEL NUMBER NOMENCLATURE

COOLING ONLY CONDENSING UNITS



COOLING ONLY FAN COIL UNITS


619E N X 024 0E0 A
Model
619C — Ceiling-Suspended Size 024
619E — High Wall Sizes 018, 024
619F — In-Ceiling Cassette Sizes 024, 036
Voltage Designation
N — 208/230-1-60
X — All Models
Current Series Code
A — All Models
Heating
0E0 — No Heat
Nominal Capacity
018 — 1-1/2 Tons (619E only)
024 — 1 1/2 or 2 Tons*
036 — 2 Tons (619F only)

*619C units can be field configured to be 1½ tons. See fan coil installation instructions for details.

ARI* CAPACITIES

NOMINAL SYSTEM CAPACITY	FAN COIL TYPE(S)	INDOOR SECTIONS			OUTDOOR SECTION	TOTAL STANDARD CFM (AT HIGH SPEED)	SYSTEM NET COOLING (Btuh)	TOTAL kW	SEER	EER	OUTDOOR SOUND RATING (Decibels)
		Ckt	Qty	Model No.							
2 Tons	In-Ceiling Cassette	A	2	619F024	538S024	1050	23,000	2.20	12.0	10.5	68
	Ceiling Suspended	A	2	619C024†	538S024	1000	24,000	2.22	12.0	10.8	
	High Wall	A	2	619E018	538S024	960	23,000	2.03	12.0	11.3	
	In-Ceiling Cassette Ceiling Suspended	A A	1 1	619F024 619C024†	538S024	1025	23,000	2.24	12.0	10.3	
	In-Ceiling Cassette High Wall	A A	1 1	619F024 619E018	538S024	1005	23,000	2.14	12.0	10.7	
	Ceiling Suspended High Wall	A A	1 1	619C024† 619E018	538S024	980	23,000	2.15	12.0	10.7	
4 Tons	High Wall	A B	2 2	619E018 619E018	538S048	1920	46,000	4.06	12.0	11.3	72
	High Wall	A B	1 2	619E024 619E018	538S048	1510	45,800	4.12	12.0	11.1	
	High Wall	A B	1 1	619E024 619E024	538S048	1100	45,600	4.18	12.0	10.9	
	Ceiling Suspended	A B	2 2	619C024† 619C024†	538S048	2000	48,000	4.44	12.0	10.8	
	Ceiling Suspended	A B	1 2	619C024 619C024†	538S048	1600	46,800	4.29	12.0	10.9	
	Ceiling Suspended	A B	1 1	619C024 619C024	538S048	1200	45,600	4.14	12.0	11.0	
	In-Ceiling Cassette	A B	2 2	619F024 619F024	538S048	2100	46,000	4.40	12.0	10.5	
	In-Ceiling Cassette	A B	2 1	619F024 619F036	538S048	1965	47,000	4.40	12.0	10.7	
	In-Ceiling Cassette	A B	1 1	619F036 619F036	538S048	1830	48,000	4.40	12.0	10.9	
	High Wall High Wall Ceiling-Suspended	A B B	2 1 1	619E018 619E018 619C024†	538S048	1940	46,000	4.18	12.0	11.0	
	High Wall High Wall In-Ceiling Cassette	A B B	2 1 1	619E018 619E018 619F024	538S048	1965	46,000	4.17	12.0	11.0	
	High Wall Ceiling Suspended	A B	2 2	619E018 619C024†	538S048	1960	47,000	4.25	12.0	11.0	
	High Wall In-Ceiling Cassette	A B	2 2	619E018 619F024	538S048	2010	46,000	4.23	12.0	10.9	
	High Wall Ceiling Suspended In-Ceiling Cassette	A B B	2 1 1	619E018 619C024† 619F024	538S048	1985	46,000	4.27	12.0	10.8	
	Ceiling Suspended Ceiling Suspended High Wall	A B B	2 1 1	619C024† 619C024† 619E018	538S048	1980	47,000	4.37	12.0	10.8	

LEGEND

Ckt — Circuit
EER — Energy Efficiency Ratio
SEER — Seasonal Energy Efficiency Ratio

*Air Conditioning & Refrigeration Institute.
†Unit must be reconfigured for 1½ ton (18,000 Btuh) operation. Refer to installation instructions included with the fan coil unit for more details.

NOTES:
1. ARI rating condition is 80 F db, 67 F wb air entering evaporator and 95 F db air entering condenser.
2. Total kW is for total system, including compressor and outdoor and indoor fans.
3. Ratings are based on 25 ft of interconnecting refrigerant line.
4. All system ratings are based on fan coil units operating at high fan speed. Consult Physical Data tables for airflows at all available fan speeds.

ARI 210/240

(When used with matching unit.)

ARI 270

ARI* CAPACITIES (cont)

NOMINAL SYSTEM CAPACITY	FAN COIL TYPE(S)	INDOOR SECTIONS			OUTDOOR SECTION	TOTAL STANDARD CFM (AT HIGH SPEED)	SYSTEM NET COOLING (Btuh)	TOTAL kW	SEER	EER	OUTDOOR SOUND RATING (Decibels)
		Ckt	Qty	Model No.							
4 Tons (cont)	Ceiling Suspended Ceiling Suspended In-Ceiling Cassette	A B B	2 1 1	619C024† 619C024† 619F024	538S048	2025	47,000	4.46	12.0	10.5	72
	Ceiling Suspended In-Ceiling Cassette	A B	2 2	619C024† 619F024	538S048	2050	47,000	4.42	12.0	10.6	
	Ceiling Suspended In-Ceiling Cassette High Wall	A B B	2 1 1	619C024† 619F024 619E018	538S048	2005	47,000	4.36	12.0	10.8	
	In-Ceiling Cassette In-Ceiling Cassette High Wall	A B B	2 1 1	619F024 619F024 619E018	538S048	2055	46,000	4.34	12.0	10.6	
	In-Ceiling Cassette In-Ceiling Cassette Ceiling Suspended	A B B	2 1 1	619F024 619F024 619C024†	538S048	2075	46,000	4.44	12.0	10.4	
	In-Ceiling Cassette Ceiling Suspended High Wall	A B B	2 1 1	619F024 619C024† 619E018	538S048	2030	46,000	4.35	12.0	10.6	
	High Wall In-Ceiling Cassette	A B	2 1	619E018 619F036	538S048	1875	47,000	4.23	12.0	11.1	
	High Wall Ceiling Suspended	A B	2 1	619E018 619C024	538S048	1560	45,800	4.10	12.0	11.2	
	Ceiling Suspended In-Ceiling Cassette	A B	2 1	619C024† 619F036	538S048	1915	48,000	4.42	12.0	10.9	
	Ceiling Suspended High Wall	A B	2 1	619C024† 619E024	538S048	1550	46,800	4.31	12.0	10.9	
	Ceiling Suspended In-Ceiling Cassette High Wall	A A B	1 1 1	619C024† 619F024 619E024	538S048	1575	45,800	4.33	12.0	10.6	
	In-Ceiling Cassette Ceiling Suspended	A B	2 1	619F024 619C024	538S048	1650	45,800	4.27	12.0	10.7	
	High Wall In-Ceiling Cassette	A B	1 1	619E024 619F036	538S048	1465	46,800	4.29	12.0	10.9	
	High Wall Ceiling Suspended	A B	1 1	619E024 619C024	538S048	1150	45,600	4.16	12.0	11.0	

LEGEND

Ckt — Circuit
EER — Energy Efficiency Ratio
SEER — Seasonal Energy Efficiency Ratio

*Air Conditioning & Refrigeration Institute.
†Unit must be reconfigured for 1½ ton (18,000 Btuh) operation. Refer to installation instructions included with the fan coil unit for more details.

NOTES:
1. ARI rating condition is 80 F db, 67 F wb air entering evaporator and 95 F db air entering condenser.
2. Total kW is for total system, including compressor and outdoor and indoor fans.
3. Ratings are based on 25 ft of interconnecting refrigerant line.
4. All system ratings are based on fan coil units operating at high fan speed. Consult Physical Data tables for airflows at all available fan speeds.

ARI 210/240

(When used with matching unit.)

ARI 270

ACCESSORIES (Field Installed)

STANDARD FEATURES AND FIELD-INSTALLED ACCESSORIES

STANDARD FEATURE/FIELD-INSTALLED ACCESSORY	538S WITH 619E (High Wall)	538S WITH 619C (Ceiling Suspended)	538S WITH 619F (In-Ceiling Cassette)
Internal Condensate Pump	A	A	S
Mounting Brackets	S	S	S
Microprocessor Controls	S	—	—
24-v Electro-Mechanical Controls	—	S	S
Cleanable Filters	S	S	S
Charcoal Filter Kit	A	—	—
Programmable Electronic Thermostat	—	A	A
3-Speed Indoor-Fan Motor	S	S	S
Automatic Indoor-Fan Speed Control	S	S	S
Diagnostics	S	S*	S*
Galvanized Steel Casing (Indoor Unit)	—	—	S
Wired and Wireless Remote Controllers	S (WR)	S (W)	S (W)
Fully Insulated Indoor Unit Cabinet	S	S	S
Automatic Air Sweep	S	S	—
User-Controlled Air Distribution	—	—	S
Power Ventilation Kit	—	A	A
Fresh Air Intake Kit	—	A	A
Auto. Restart Function	S	S	S
Indoor Guard (Discharge Grille)	—	A	—
24-Hour Automatic Start/Stop Timer	S	A	A
50-ft 24-v Control Power Cable	—	S	—
35-ft 24-v Control Power Cable	S	—	—
Refrigerant Line Turn Elbow	—	S	—
High- and Low-Voltage Terminal Blocks (Indoor)	S	S	S
Refrigerant Metering Device (TXV)†	S	S	S
Evaporator Coil Freeze Protection	S	S	S
Outdoor Low-Voltage Terminal Block	S	S	S
Crankcase Heater†	A	A	A
High-Pressure Switch	S	S	S
Low-Pressure Switch	S	S	S
5-Year Compressor Warranty	S	S	S
Cycle-LOC™ Device†	S	S	S
Suction and Discharge Service Taps**	S	S	S
Totally Enclosed Fan Motor	S	S	S
Acoustically-Lined Compressor Compartment	S	S	S
Low Ambient Temperature Controls (down to −20 F)	S	S	S
Winter Start Control†	A	A	A
Liquid Solenoid Valve	S	S	S

LEGEND

A — Field-Installed Accessory
S — Standard from the Factory
TXV — Thermostatic Expansion Valve
W — Wired
WR — Wireless Remote
— — Not Available on this System

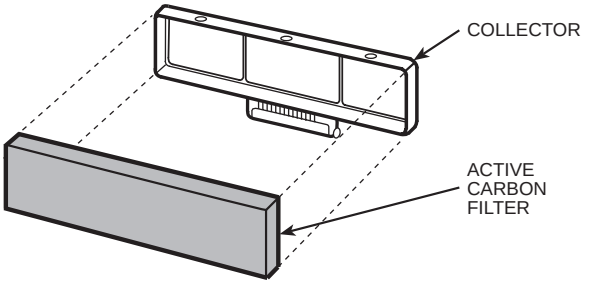
*Limited diagnostics through standard 24-v control.
†Located in 538S outdoor condensing unit.
**The 538S units are equipped with taps at each suction valve, compressor, suction line, and discharge line.

NOTE: If electric heat is required, match the 538S condensing unit with an indoor heat pump fan coil.

See Standard Features and Field-Installed Accessories table on page 8 for information on system features and accessories.

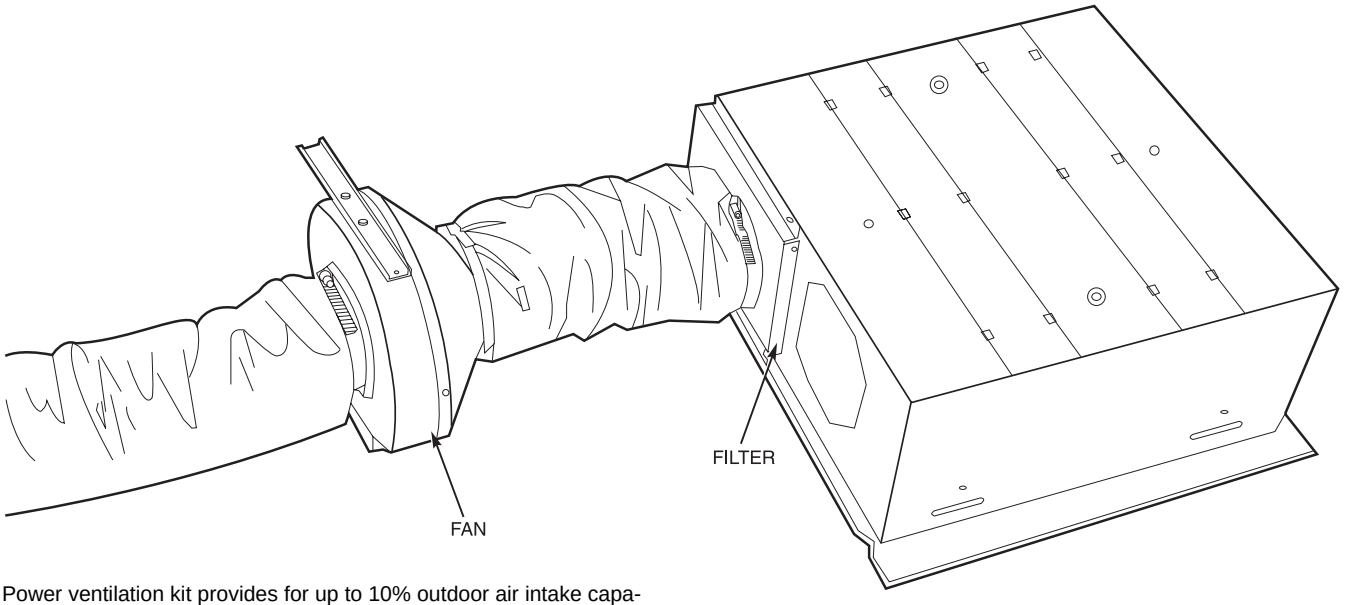
CHARCOAL FILTER KIT

The charcoal (carbon) filter kit is available for duct-free high wall fan coil units. This accessory improves indoor air quality by removing volatile organic compounds (VOCs), odors, and micro-particles from the air. The filter kit can be installed either before or after the unit has been mounted to the wall. Filters must be changed approximately every 3 months.



(TYPICAL FILTER SHOWN)

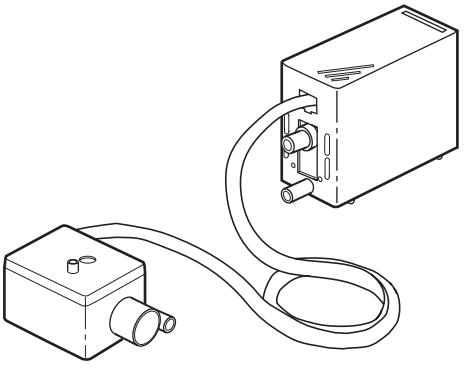
POWER VENTILATION KIT

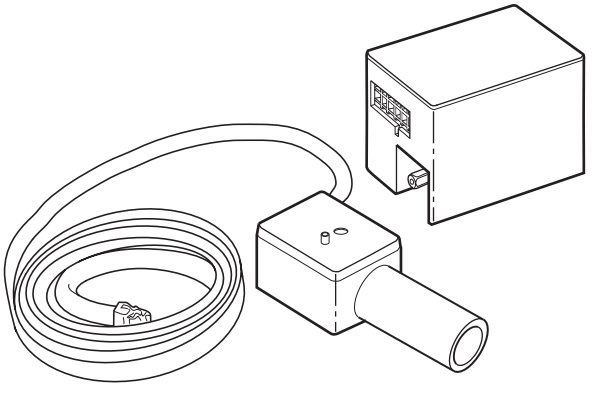


Power ventilation kit provides for up to 10% outdoor air intake capability for the in-ceiling cassette (619F) units and up to 30% capability on ceiling-suspended (619C) units. The filter is mounted at the fan coil unit and filters the outdoor air. A booster fan with speed control is provided to allow for long duct runs and to balance airflow to the unit for consistent unit operation.

NOTE: When kit is used on 619C units, fresh air intake kit is also required.

CONDENSATE PUMPS





Condensate pumps provide condensate lift capability of 20 in. on ceiling-suspended (619C) fan coils.

On high wall fan coils, condensate pump has a lift capability of approximately 3 to 25 ft (018,024 units). See the chart below.

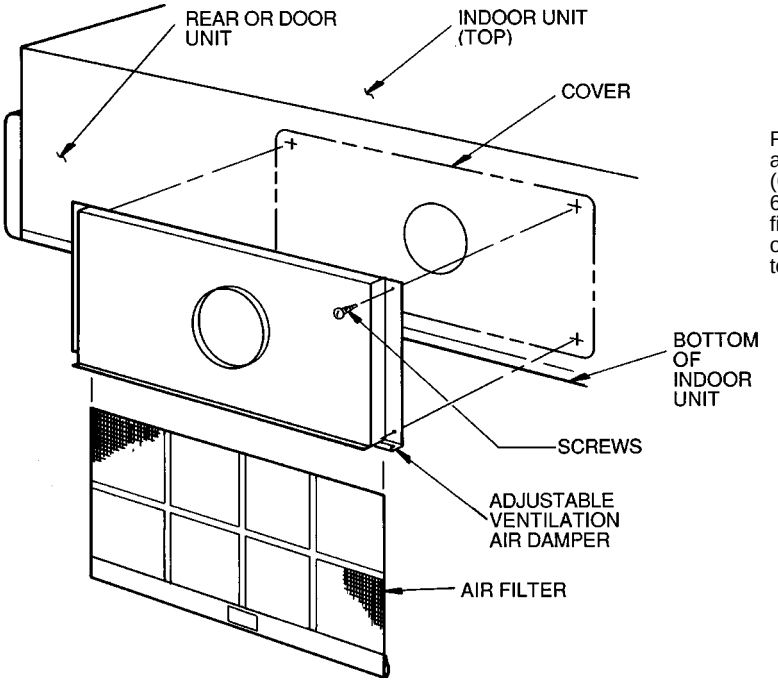
The pump mounts inside the unit with quick plug-in connections, and is recommended when adequate drain line pitch cannot be provided.

NOTE: This pump is standard on the in-ceiling cassette (619F) fan coils, where it provides a lift capability of 20 in. above the condensate pan.

UNIT 619E	SUCTION HEAD (ft)	VERTICAL DISCHARGE HEIGHT (ft)	HORIZONTAL DISCHARGE LENGTH (ft)	CONDENSATE FLOW (GPH)
018,024	0	3.28	16.4	1.98
		19.60	16.4	0.66
		3.28	32.8	1.85
		19.60	32.8	0.53
	3.28	3.28	16.4	1.72
		19.60	16.4	0.40
		3.28	32.8	1.59
		19.60	32.8	0.26

NOTE: For other suction head and discharge combinations, contact your representative.

FRESH AIR INTAKE KIT



Fresh air intake kit provides for a variable amount of outdoor-air capability for the ceiling-suspended (619C) and cassette (619F) fan coils. Up to 30% outdoor-air can be supplied to 619C units and up to 10% can be supplied to 619F units. The filter is mounted at the fan coil unit and provides filtering of outdoor air before it enters the unit. (Ceiling-suspended system application is shown.)

ACCESSORIES (Field Installed) (cont)

CONDENSING UNITS

Winter start control is a single-pole, single-throw delay relay that bypasses the low-pressure switch for approximately 3 minutes at unit start-up. The control permits start-up for cooling operation under low load conditions at low-ambient temperatures. This accessory is recommended on all 538S systems to provide cooling at outdoor ambient temperatures below 40 F.

Crankcase heater accessory is a clamp-on compressor oil sump heater. This heater is necessary wherever unit operation in cooling is anticipated at outdoor ambient temperatures under 40 F.

FAN COIL UNITS

Indoor guard is a decorative wire guard for the ceiling-suspended (619C) fan coils. The guard mounts over the fan coil discharge to prevent objects from entering the unit and air sweep.

Electronic programmable thermostats are available for in-ceiling cassette (619F) and ceiling-suspended (619C) fan coils. These commercial-grade thermostats provide 7-day, 4-event-per-day scheduling. The included subbases provide 3-speed fan switchover capability.

PHYSICAL DATA — 538S CONDENSING UNITS

UNIT 538S	024	048
NOMINAL CAPACITY (Tons)	2	4
OPERATING WEIGHT (lb)	159	292
REFRIGERANT TYPE	R-22	
Control (Cooling)	TXV in Condensing Unit	
Factory Charge (lb)*		
Circuit A	5.0	5.5
Circuit B	—	5.5
COMPRESSOR TYPE	Copeland Scroll	
Quantity...Model	1...ZR23K1	2...ZR23K3
Oil (Recharge) (oz)	25	25
OUTDOOR FAN	Propeller, Direct Drive	
Rpm	850	850
Diameter (in.)...No. of Blades	18...3	24...3
Pitch (Degrees)	27	24
Motor Hp	1/8	1/4
Nominal Air Cfm	1720	3900
OUTDOOR COIL	Copper Tube, Aluminum Fin	
Face Area (sq ft)...No. of Rows	6.1...2	12.3...2
Fins/in.	15	15
CONTROLS		
High-Pressure (psig)		
Cut-in	320 ± 20	
Cutout	426 ± 7	
Low-Pressure (psig)		
Cut-in	22 ± 5	
Cutout	7 ± 3	
Fusible Plug	210 F	
Control Voltage (v)	24	
REFRIGERANT LINES		
Connection Type	Sweat	
Vapor Supply Line Quantity...OD (in.)	2...3/8	4...3/8
Vapor Return Line Quantity...OD (in.)	2...5/8	4...5/8
Maximum Length (ft)	50	50
Maximum Lift Fan Coil (Above Outdoor) (ft)	30†	30†
Maximum Lift Fan Coil (Below Outdoor) (ft)	30†	30†
EXTERNAL FINISH	Alpine Mist (Beige)	

LEGEND

TXV — Thermostatic Expansion Valve

*Charge is based on 25 ft of interconnecting line.
†Maximum system lift is 30 ft between lowest system component and highest system component.

PHYSICAL DATA — HIGH-WALL UNITS

UNIT 619E	018	024
NOMINAL CAPACITY (Tons)	1½	2
NOMINAL SIZE (Btuh)	18,000	24,000
OPERATING WEIGHT (lb)	38.5	42.9
MOISTURE REMOVAL RATE (Pints/Hr)	5.6	6.3
FINISH	White	
REFRIGERANT TYPE	R-22	
INDOOR FAN	Direct Drive Centrifugal	
Rpm...Cfm High	1120...550	1470...570
Rpm...Cfm Medium	1050...500	1370...466
Rpm...Cfm Low	950...450	1270...417
Motor Watts	44	49
Blowers — No. ...Size (in.)	2...3.94 x 17.8	2...3.94 x 17.8
INDOOR COIL	Copper Tube, Aluminum Fin	
Face Area (sq ft)	2.56	2.56
No. of Rows	2	3
Fins/in.	15.9	18.1
Circuits	2	3
FILTERS	Cleanable	
(Quantity) Size (in.)	(3) 11½ x 17¾	
AIRSWEEP		
Horizontal	Manual	
Vertical	Automatic	
CONTROLS	Integrated Microprocessor	
Remote Controller	Wireless	
Freeze Protection	Yes	
Auto. Restart	Yes	
Diagnostics	Yes	
Timer Mode	24-Hour Startup/Shutdown Type	
Test Mode	Yes	
Dehumidification Mode	Yes	
Fan Mode	High/Medium/Low/Auto.	
Control Voltage	24 v	
REFRIGERANT LINES		
Connection Type	Male Flare	
Liquid Line OD (in.)	⅜	
Vapor Line OD (in.)	⅝	
CONDENSATE DRAIN CONNECTION (in.)	⅝ OD, 7/16 ID	

PHYSICAL DATA — CEILING-SUSPENDED UNITS

UNIT 619C	024*	024
NOMINAL CAPACITY (Tons)	1½*	2
NOMINAL SIZE (Btuh)	18,000*	24,000
OPERATING WEIGHT (lb)	108	108
MOISTURE REMOVAL RATE (Pints/Hr)	5.8	7.1
FINISH	GM Motorhome White with Black Trim	
REFRIGERANT TYPE	R-22	
INDOOR FAN	Direct Drive Centrifugal	
Rpm...Cfm High	862...500	1050...600
Rpm...Cfm Medium	690...400	690...400
Rpm...Cfm Low	552...320	552...320
High Speed Watts	92	92
Quantity...Motor Hp	1...1/16	1...1/16
Blowers — No. ...Size (in.)	2...6 x 8	2...6 x 8
INDOOR COIL	Copper Tube, Aluminum Fin	
Face Area (sq ft)	2.2	2.2
No. of Rows	4	4
Fins/in.	14.9	14.9
Circuits	4	4
FILTERS	Cleanable	
(Quantity) Size (in.)	(4) 12 x 8¾	
AIRSWEEP		
Horizontal	—	
Vertical	Automatic	
CONTROLS	Solid-State Electromechanical	
Remote Controller	Hard-Wired	
Auto. Restart	Yes	
Diagnostics	Yes	
Timer Mode	24-Hour Type	
Test Mode	Yes	
Fan Mode	High/Medium/Low/Auto	
Control Voltage	24 v	
REFRIGERANT LINES		
Connection Type	Flare	
Liquid Line OD (in.)	⅜	
Vapor Line OD (in.)	⅝	⅝
CONDENSATE DRAIN CONNECTION (in. MPT)	¾†	

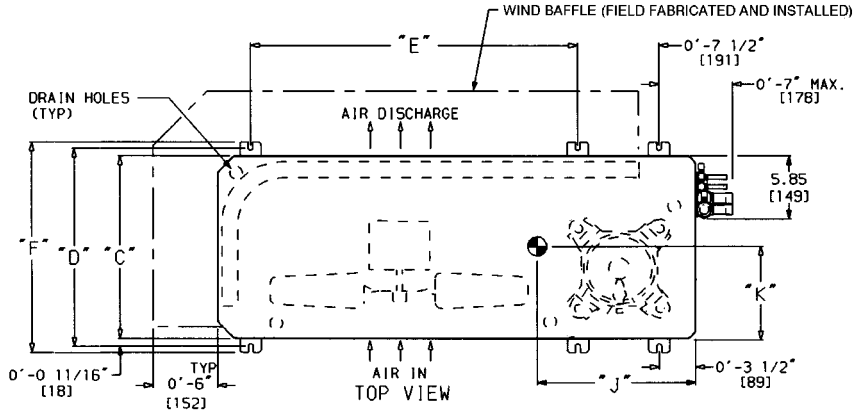
*Field configured for 1½ ton capacity using a different motor speed fan tap plug than standard size 024 unit. See unit installation instructions for more details.
†Flexible tubing (⅝ in.) required when optional condensate pump is used.

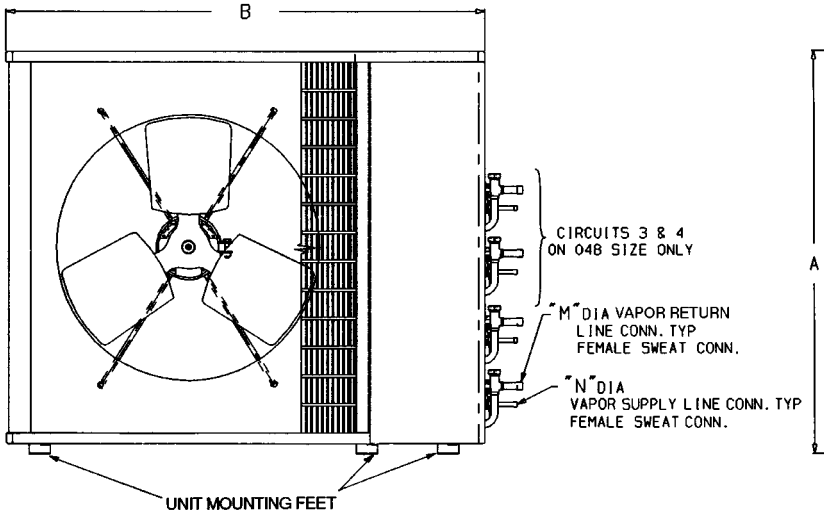
PHYSICAL DATA — IN-CEILING CASSETTE UNITS

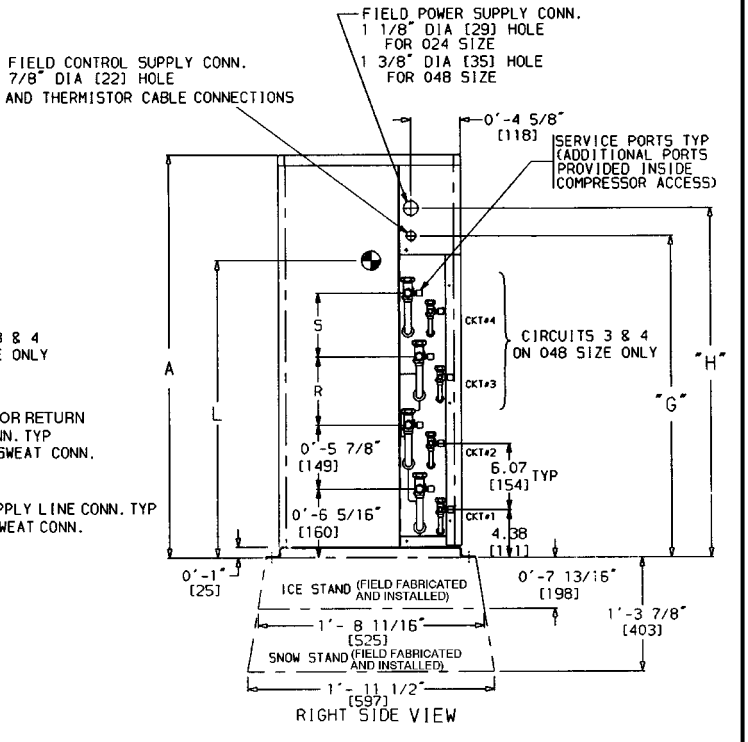
UNIT 619F	024	036
NOMINAL CAPACITY (Tons)	1½	2*
NOMINAL SIZE (Btuh)	18,000	24,000*
OPERATING WEIGHT (lb)	61.6	105.8
MOISTURE REMOVAL RATE (Pints/Hr)	7.0	9.6
FINISH	Ceiling White with Black Discharge Grille	
REFRIGERANT TYPE	R-22	
INDOOR FAN	Direct Drive Centrifugal	
Rpm...Cfm High	1190...525	970...915
Rpm...Cfm Medium	930...415	790...745
Rpm...Cfm Low	840...375	635...635
High Speed Watts	100	180
Motor (Quantity) Hp	(1) 1/16	(2) 1/16
Blowers — No. ...Size (in.)	1...10 x 8	2...10 x 8
INDOOR COIL	Copper Tube, Aluminum Fin	
Face Area (sq ft)	2.66	5.67
No. of Rows	3	2
Fins/in.	14.0	14.0
Circuits	4	4
FILTERS	Cleanable	
(Quantity) Size (in.)	(1) 16½ x 16½	(2) 16½ x 16½
AIRSWEEP	None	
CONTROLS	Solid-State Electromechanical	
Remote Controller	Hard Wired	
Auto. Restart	Yes	
Diagnostics	Yes	
Timer Mode	24-Hour Countdown Type	
Test Mode	Yes	
Fan Mode	High/Medium/Low—Auto/Continuous	
Control Voltage	24 v (provided)	
REFRIGERANT LINES		
Connection Type	Flare	
Liquid Line OD (in.)	3/8	
Vapor Line OD (in.)	5/8	3/4
CONDENSATE DRAIN CONNECTION	Hose	
CONDENSATE DRAIN SIZE (in.)	1.0	

*With 538S condensing unit.

BASE UNIT DIMENSIONS — 538S CONDENSING UNITS




B
CIRCUITS 3 & 4 ON 048 SIZE ONLY
"M" DIA VAPOR RETURN LINE CONN. TYP FEMALE SWEAT CONN.
"N" DIA VAPOR SUPPLY LINE CONN. TYP FEMALE SWEAT CONN.
UNIT MOUNTING FEET
FRONT VIEW



UNIT 538S	A		B		C		D		E		F		G		H	
	Ft-in.	mm	Ft-in.	mm	Ft-in.	mm	Ft-in.	mm	Ft-in.	mm	Ft-in.	mm	Ft-in.	mm	Ft-in.	mm
024	2-1 1/8	638	3-0 15/16	938	1-2 9/16	370	1-4	406	1-11 7/16	595	1-5 3/16	437	1-5 1/2	445	1-8 1/8	511
048	3-1 3/16	945	3-8 9/16	1132	1-5 1/16	433	1-6 7/16	468	2-6 1/2	775	1-7 5/8	499	2-5 5/8	753	2-8 3/16	818

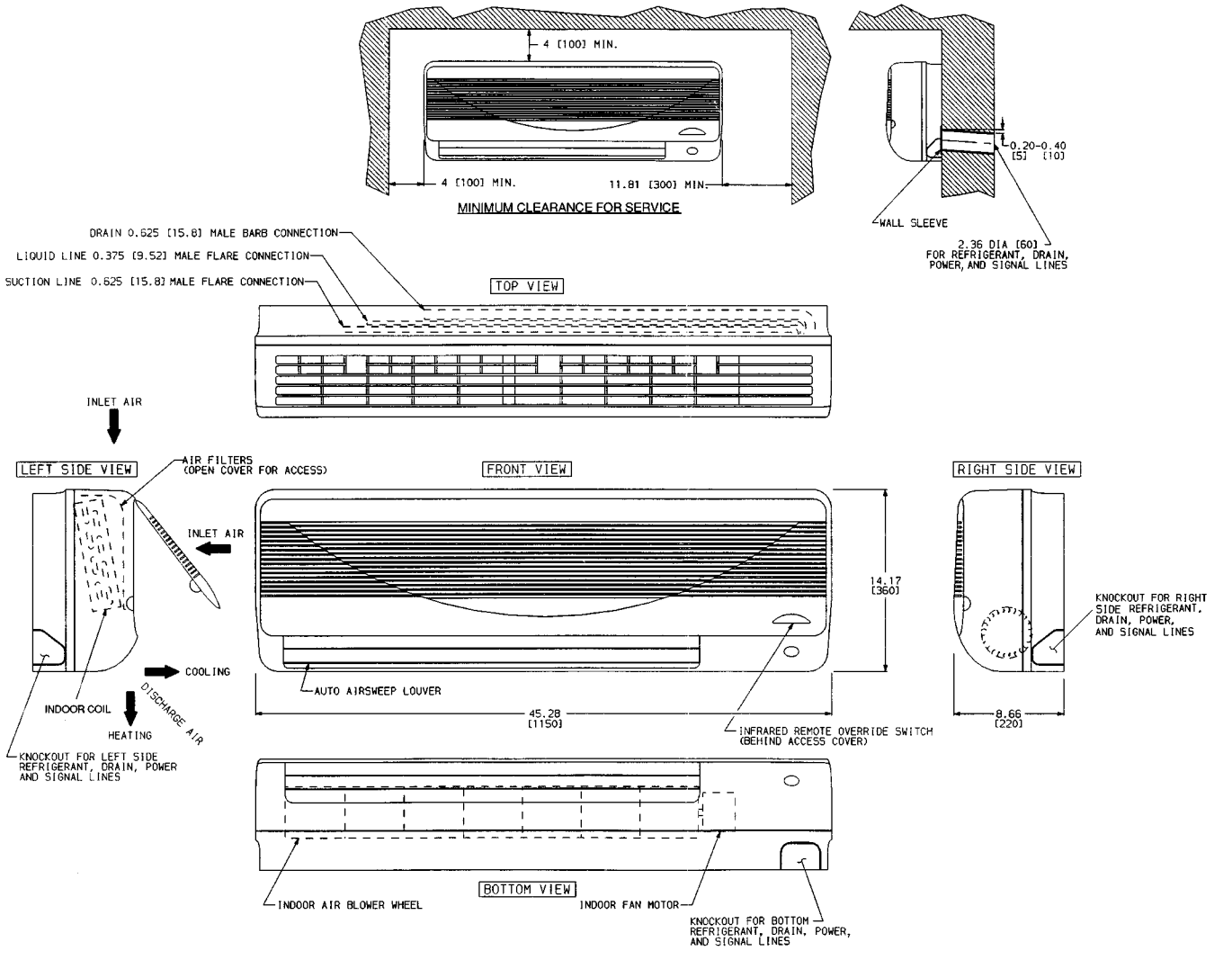
UNIT 538S	J		K		L		M		N		R		S		OPERATING WEIGHT	
	Ft-in.	mm	Ft-in.	mm	Ft-in.	mm	Ft-in.	mm	Ft-in.	mm	Ft-in.	mm	Ft-in.	mm	Lb	Kg
024	1-2 7/16	367	0-6 3/4	171	1-0	305	0-0 5/8	16	0-0 3/8	10	—	—	—	—	159	72.0
048	1-2 3/4	375	0-7 1/2	191	1-6	457	0-0 5/8	16	0-0 3/8	10	0-6 5/16	160	0-5 7/8	149	292	132.3

UNIT 538S	MINIMUM MOUNTING PAD DIMENSIONS					
	SUPPORT FEET		SNOW STAND		ICE STAND	
	Ft-in.	mm	Ft-in.	mm	Ft-in.	mm
024	1-11 x 3-6	584 x 1067	2-2 x 3-6	660 x 1067	2-2 x 3-6	660 x 1067
048	2-0 x 4-2	610 x 1270	2-4 x 4-4	711 x 1270	2-2 x 4-2	660 x 1270

NOTES:

1. Required clearances: with coil facing wall; allow 6 in. minimum clearance on coil side and coil end, and 3 ft minimum clearance on compressor end and fan side. With fan facing wall; allow 8 in. minimum clearance on fan side and coil end, and 3 ft minimum clearance on compressor end and coil side. With multi-unit application: arrange units so discharge of one does not enter inlet of another.
2. Dimensions in [ ] are in millimeters.
3. Center of gravity .

BASE UNIT DIMENSIONS — 619E HIGH WALL FAN COIL UNITS

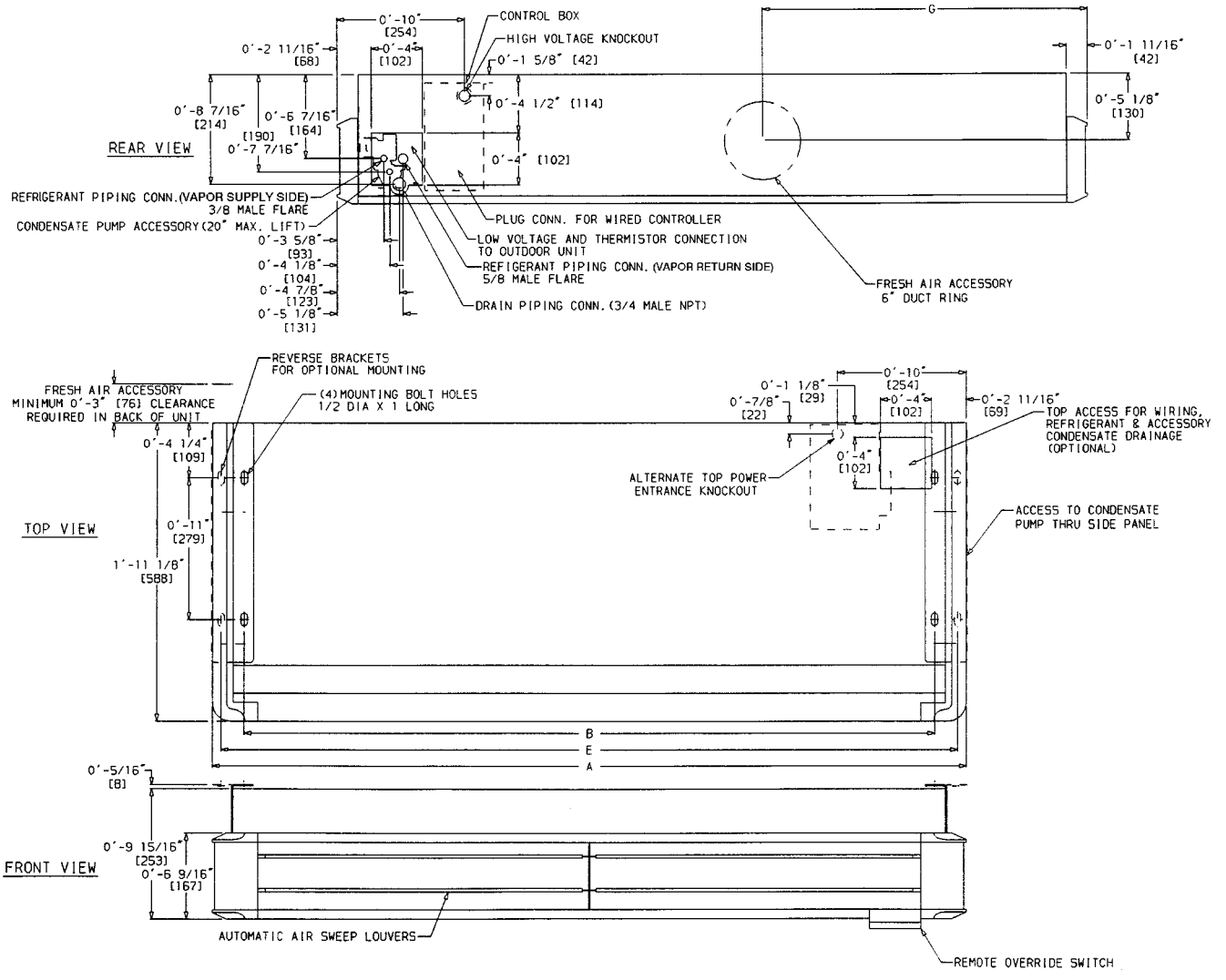


UNIT 619E	WEIGHT—LB (KG)
018	38.5 (17.5)
024	42.9 (19.5)

NOTES:

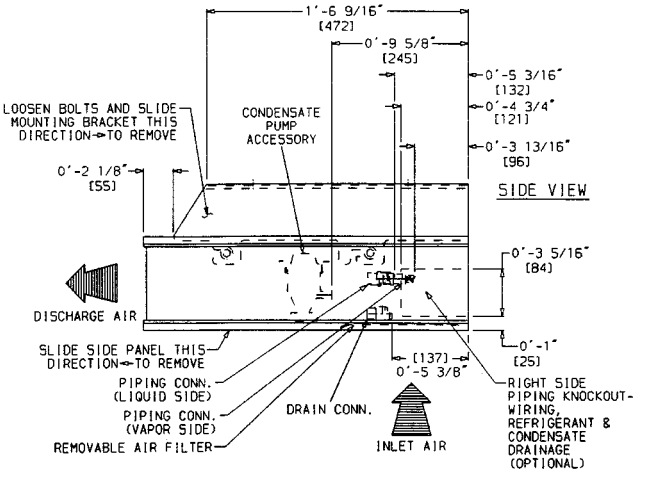
1. Dimensions in ( ) are in millimeters.
2. ➡ Direction of airflow.
3. Refrigerant, drain, and power connections may be made in unit rear, bottom, left side, or right side.
4. A thermostatic expansion valve is used in the outdoor unit on 538S applications. Insulate both refrigerant lines.
5. The 4″ top and left side clearances are absolute minimums. Clearances of 10″ are recommended.

BASE UNIT DIMENSIONS — 619C CEILING-SUSPENDED FAN COIL UNITS


REAR VIEW
CONTROL BOX
HIGH VOLTAGE KNOCKOUT
REFRIGERANT PIPING CONN. (VAPOR SUPPLY SIDE) 3/8 MALE FLARE
CONDENSATE PUMP ACCESSORY (20" MAX. LIFT)
PLUG CONN. FOR WIRED CONTROLLER
LOW VOLTAGE AND THERMISTOR CONNECTION TO OUTDOOR UNIT
REFIGERANT PIPING CONN. (VAPOR RETURN SIDE) 5/8 MALE FLARE
DRAIN PIPING CONN. (3/4 MALE NPT)
FRESH AIR ACCESSORY 6" DUCT RING
TOP VIEW
REVERSE BRACKETS FOR OPTIONAL MOUNTING
(4) MOUNTING BOLT HOLES 1/2 DIA X 1 LONG
FRESH AIR ACCESSORY MINIMUM 0'-3" [76] CLEARANCE REQUIRED IN BACK OF UNIT
ALTERNATE TOP POWER ENTRANCE KNOCKOUT
TOP ACCESS FOR WIRING, REFRIGERANT & ACCESSORY CONDENSATE DRAINAGE (OPTIONAL)
ACCESS TO CONDENSATE PUMP THRU SIDE PANEL
FRONT VIEW
AUTOMATIC AIR SWEEP LOUVERS
REMOTE OVERRIDE SWITCH

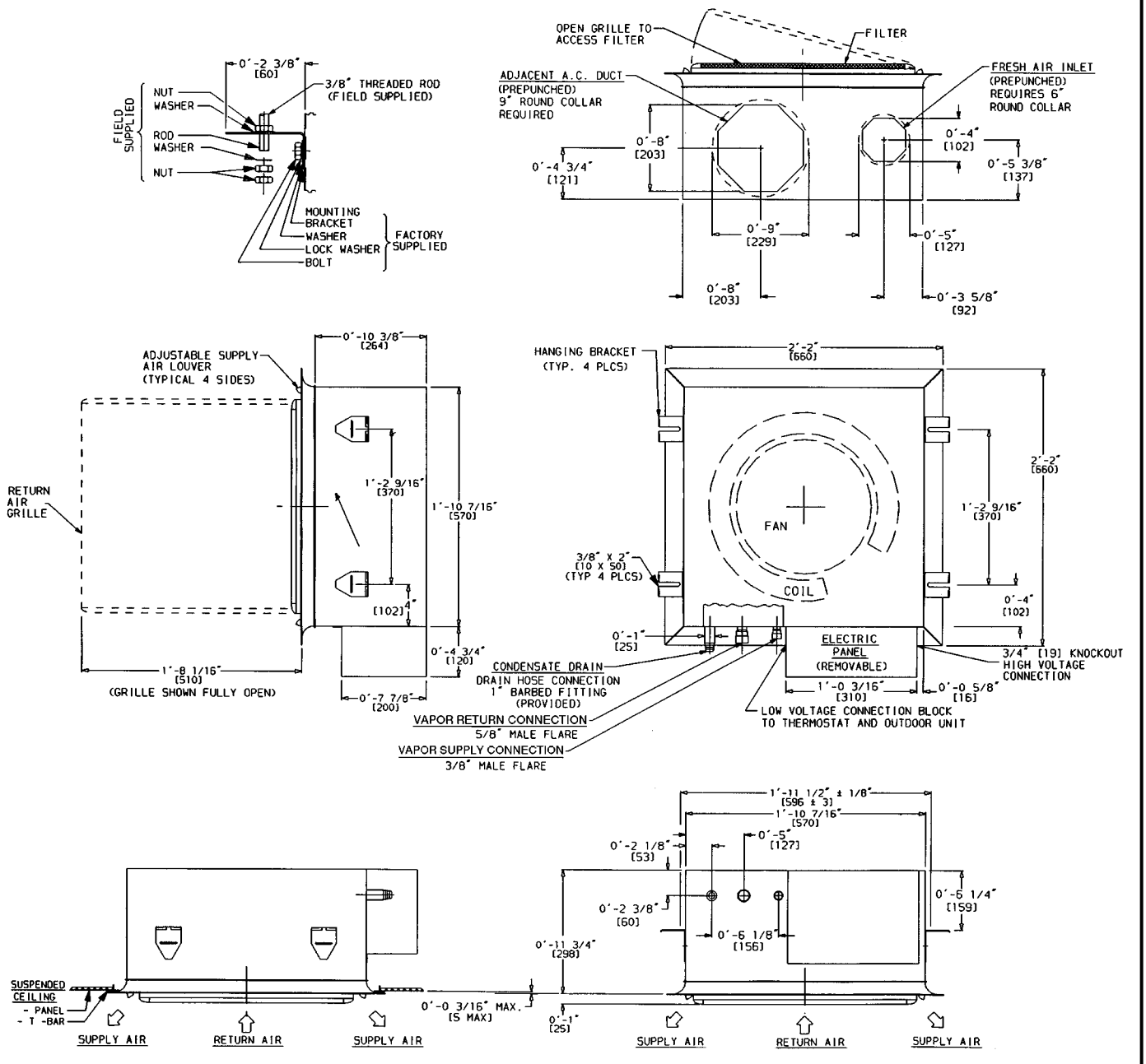
NOTES:

1. Dimensions in [ ] are millimeters.
2. Direction of airflow.
3. Facing unit discharge, unit clearances are as follows:
   - 0 in. on top and rear
   - 3 in. on left side
   - 12 in. on right side
   - 36 in. on bottom


SIDE VIEW
LOOSEN BOLTS AND SLIDE MOUNTING BRACKET THIS DIRECTION → TO REMOVE
CONDENSATE PUMP ACCESSORY
DISCHARGE AIR
SLIDE SIDE PANEL THIS DIRECTION → TO REMOVE
PIPING CONN. (LIQUID SIDE)
PIPING CONN. (VAPOR SIDE)
REMOVABLE AIR FILTER
DRAIN CONN.
INLET AIR
RIGHT SIDE PIPING KNOCKOUT-WIRING, REFRIGERANT & CONDENSATE DRAINAGE (OPTIONAL)

UNIT 619C	WEIGHT (lb)	A		B		E		G	
		ft-in.	mm	ft-in.	mm	ft-in.	mm	ft-in.	mm
024	108	4- 2 15/16	1294	3-10	1169	4- 1 3/8	1260	1- 9 5/8	549

BASE UNIT DIMENSIONS — 619F IN-CEILING CASSETTE FAN COIL UNITS

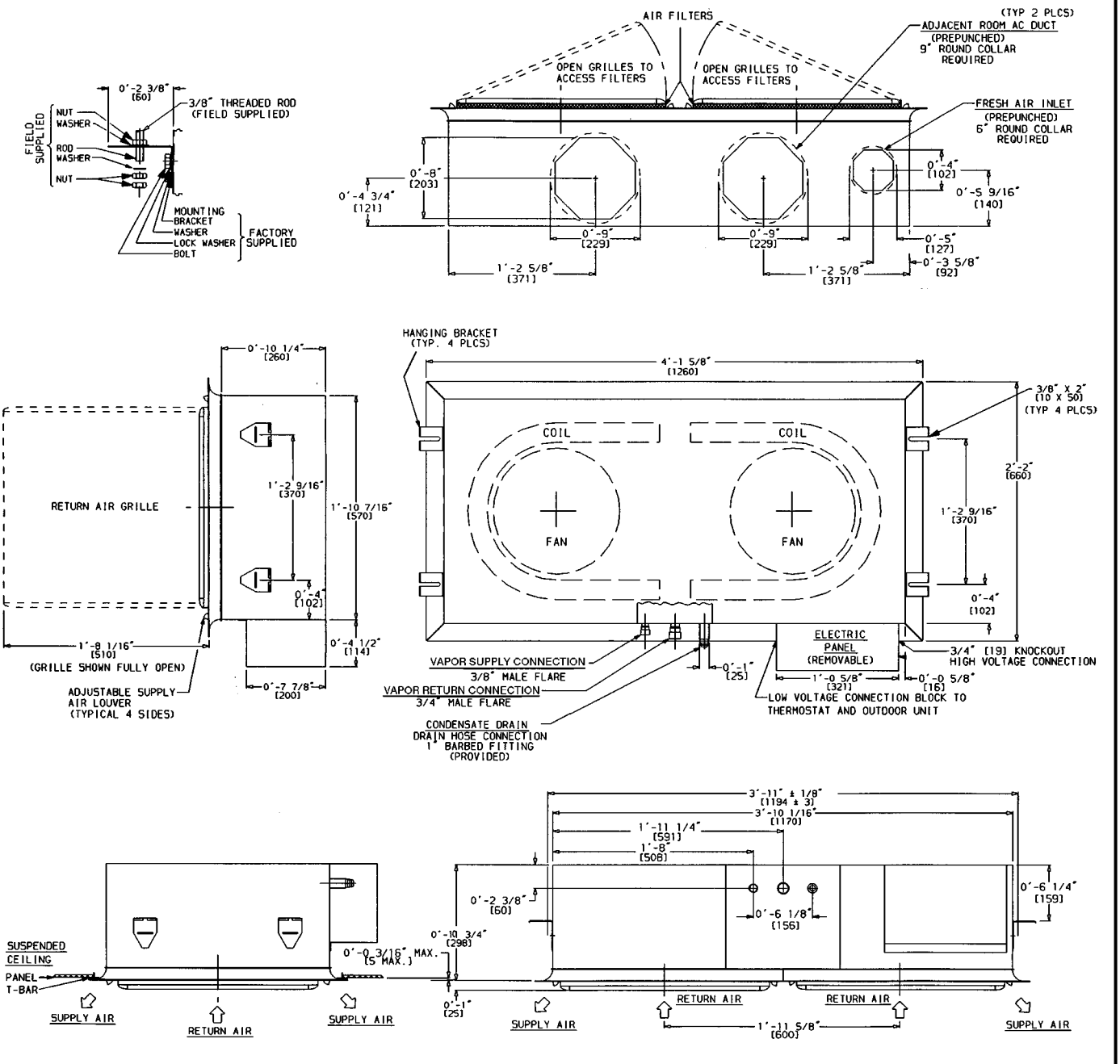


UNIT	OPERATING WEIGHT	
	Lb	Kg
619F024	61.6	28

NOTES:

1. ⇨ indicates airflow.
2. Dimensions in. [ ] are in millimeters.
3. Service clearance is 2 ft on control box side, 0 in. all other sides.
4. Air discharge slots are adjustable; one or 2 may be closed to direct air in the desired direction.
5. Grille is shipped separately from unit.
6. Condensate pump has 20-in. lift capability.

BASE UNIT DIMENSIONS — 619F IN-CEILING CASSETTE FAN COIL UNITS (cont)



UNIT 619F	OPERATING WEIGHT	
	Lb	Kg
036	105.8	48

NOTES:

1. ⇨ Indicates airflow.
2. Dimensions in [ ] are in millimeters.
3. Service clearance is 2 ft on control box side, 0 in. all other sides.
3. Air discharge slots are adjustable; one or 2 may be closed to direct air in the desired direction.
5. Grille is shipped separately from unit.
6. Condensate pump has 20-in. lift capability.

SELECTION PROCEDURE (With Example)

I DETERMINE THE TYPE OF FAN COIL WHICH BEST SUITS THE APPLICATION (REFER TO SYSTEMS INDEX TABLE ON PAGE 21):

Duct-free split systems have 3 types of fan coils to choose from with overlapping capacities. Select the system type which best meets the job conditions. This example will use one 1½-ton high wall fan coil and one 1½ ton in-ceiling cassette.

II DETERMINE COOLING LOAD REQUIREMENTS AT DESIGN CONDITIONS:

Required Load Conditions:

Required cooling capacity (TCG) . . . . . 24,000 Btuh
Sensible Heat Capacity (SHG) . . . . . 20,000 Btuh
Temperature Air Entering
Condensing Unit . . . . . 95 F
Temperature Air Entering
Indoor Unit (EAT) . . . . . 82 F db/68 F wb

db — dry bulb
wb — wet bulb

III SELECT SYSTEM THAT SATISFIES LOAD REQUIREMENTS:

Enter the Systems Index table on page 21 at systems for 24,000 Btuh, and select the system that best approximates cooling requirements. System index no. 5 with a nominal net capacity of 23,000 Btuh cooling is the system selected. The system consists of a 538S024 outdoor unit matched with one 619E018 and one 619F024 indoor unit.

IV DETERMINE IF SYSTEM SELECTED SATISFIES COOLING REQUIREMENTS:

Enter Cooling Capacities table no. 5 on page 27 at high speed and 95 F outdoor entering air temperature (air entering condenser). By interpolation, at 68 F EAT, the system gross capacity is 24,000 Btuh cooling [(25,600 - 23,600) × (1/5) + 23,600], and 18,460 Btuh gross sensible capacity [(19,400 - 14,700) × (4/5) + 14,700]. Adjust the SHG in accordance with Note 2 of the Cooling Capacity table, using the correction factor for an 82 F edb (air entering dry bulb), and an 0.17 BF (bypass factor). The result is an adjusted SHG of 20,339 Btuh. The total gross cooling capacity of 24,000 Btuh and the sensible heat capacity of 20,339 Btuh satisfy stipulated cooling load requirements.

V DETERMINE NET COOLING CAPACITY AND SYSTEM ENERGY EFFICIENCY RATIO:

Determine net cooling capacity (refer to Cooling Capacity table no. 5 on page 27). Net total cooling capacity must be interpolated as follows:

(24,900 - 23,000) x (1/5) + 23,000 = 23,380 Btuh

To determine the energy efficiency ratio (EER), system kW must be interpolated from Cooling Capacity table no. 5 in the same manner:

(2.15 - 2.14) x (1/5) + 2.14 = 2.14 kW

Then calculate EER:

$$EER = \frac{\text{Net Cooling Capacity}}{\text{kW x 1000}}$$

$$\frac{23{,}380}{2.14 \text{ x } 1000} = 10.9 \text{ EER}$$

NOTE: The SEER (Seasonal Energy Efficiency Ratio) CANNOT be calculated for this system. SEERs can only be found as a direct result of testing at specified ARI conditions. See ARI Capacities table on page 6.

VI DETERMINE THE RECOMMENDED VAPOR LINE SIZES:

Refer to Refrigerant Lines section on page 40.

PERFORMANCE DATA

SYSTEMS INDEX TABLE

NOMINAL SYSTEM CAPACITY	SYSTEM OPTION NO.*	FAN COIL TYPE(S)	INDOOR SECTION			OUTDOOR SECTION	SYSTEM NET COOLING (Btuh)†	COOLING CAPACITY TABLE NUMBER(S)**
			Ckt	Qty	Model No.			
2 Tons	1	In-Ceiling Cassette	A	2	619F024	538S024	23,000	1
	2	Ceiling Suspended	A	2	619C024††	538S024	24,000	2
	3	High Wall	A	2	619E018	538S024	23,000	3
	4	In-Ceiling Cassette Ceiling Suspended	A A	1 1	619F024 619C024††	538S024	23,000	4
	5	In-Ceiling Cassette High Wall	A A	1 1	619F024 619E018	538S024	23,000	5
	6	Ceiling Suspended High Wall	A A	1 1	619C024†† 619E018	538S024	23,000	6
4 Tons	1	High Wall	A B	2 2	619E018 619E018	538S048	46,000	3, 3
	2	High Wall	A B	1 2	619E024 619E018	538S048	45,800	3, 10
	3	High Wall	A B	1 1	619E024 619E024	538S048	45,600	10, 10
	4	Ceiling Suspended	A B	2 2	619C024†† 619C024††	538S048	48,000	2, 2
	5	Ceiling Suspended	A B	1 2	619C024 619C024††	538S048	46,800	2, 11
	6	Ceiling Suspended	A B	1 1	619C024 619C024	538S048	45,600	11, 11
	7	In-Ceiling Cassette	A B	2 2	619F024 619F024	538S048	46,000	1, 1
	8	In-Ceiling Cassette	A B	2 1	619F024 619F036	538S048	47,000	1, 12
	9	In-Ceiling Cassette	A B	1 1	619F036 619F036	538S048	48,000	12, 12
	10	High Wall High Wall Ceiling-Suspended	A B B	2 1 1	619E018 619E018 619C024††	538S048	46,000	3, 6
	11	High Wall High Wall In-Ceiling Cassette	A B B	2 1 1	619E018 619E018 619F024	538S048	46,000	3, 5
	12	High Wall Ceiling Suspended	A B	2 2	619E018 619C024††	538S048	47,000	2, 3
	13	High Wall In-Ceiling Cassette	A B	2 2	619E018 619F024	538S048	46,000	1, 3
	14	High Wall Ceiling Suspended In-Ceiling Cassette	A B B	2 1 1	619E018 619C024†† 619F024	538S048	46,000	3, 4

*Option numbers correlate to unit Price Page options. Contact your local representative for more details.

†Btuh capacity ratings describe fan coil unit combinations as listed in the Indoor Section column above.

**Cooling capacity table numbers reference tables on pages 23-34. When more than one table is referenced, add together the capacity data listed in each table for the system total capacity. This procedure is also appropriate for determining total system power and total compressor power.

††Unit must be field reconfigured for 18,000 Btuh operation. Refer to installation instructions included with fan coil unit for more details.

NOTES:

1. If a system consists of 2 fan coil units on each circuit (using a 558S048 condensing unit), and one fan coil unit is turned off, the resulting system capacity will change. For example, for system option no. 17 in the table on page 22, with all fan coil units turned on and available for cooling, system capacities are determined using cooling capacity table numbers 1 and 2. If one of the 619F024 fan coil units is turned off (not available for operation), the new system capacity would be derived using cooling capacity tables 2 and 8 (43,400 Btuh). Contact your local representative for assistance with your specific application.
2. Tables 7, 8, and 9 show system performance with one fan coil running in a circuit designed for two fan coils. Using any of these units by themselves as the only fan coil on a circuit is not recommended. Performance data is provided for reference only.

PERFORMANCE DATA (cont)

SYSTEMS INDEX TABLE (cont)

NOMINAL SYSTEM CAPACITY	SYSTEM OPTION NO.*	FAN COIL TYPE(S)	INDOOR SECTION			OUTDOOR SECTION	SYSTEM NET COOLING (Btuh)†	COOLING CAPACITY TABLE NUMBER(S)**
			Ckt	Qty	Model No.			
4 Tons (cont)	15	Ceiling Suspended Ceiling Suspended High Wall	A B B	2 1 1	619C024†† 619C024†† 619E018	538S048	47,000	2, 6
	16	Ceiling Suspended Ceiling Suspended In-Ceiling Cassette	A B B	2 1 1	619C024†† 619C024†† 619F024	538S048	47,000	2, 4
	17	Ceiling Suspended In-Ceiling Cassette	A B	2 2	619C024†† 619F024	538S048	47,000	1, 2
	18	Ceiling Suspended In-Ceiling Cassette High Wall	A B B	2 1 1	619C024†† 619F024 619E018	538S048	47,000	2, 5
	19	In-Ceiling Cassette In-Ceiling Cassette High Wall	A B B	2 1 1	619F024 619F024 619F018	538S048	46,000	1, 5
	20	In-Ceiling Cassette In-Ceiling Cassette Ceiling Suspended	A B B	2 1 1	619F024 619F024 619C024††	538S048	46,000	1, 4
	21	In-Ceiling Cassette Ceiling Suspended High Wall	A B B	2 1 1	619F024 619C024†† 619E018	538S048	46,000	1, 6
	22	High Wall Ceiling Suspended	A B	2 1	619E018 619C024	538S048	45,800	3, 11
	23	High Wall In-Ceiling Cassette	A B	2 1	619E018 619F036	538S048	47,000	3, 12
	24	Ceiling Suspended In-Ceiling Cassette	A B	2 1	619C024†† 619F036	538S048	48,000	2, 12
	25	Ceiling Suspended High Wall	A B	2 1	619C024†† 619E024	538S048	46,800	2, 10
	26	Ceiling Suspended In-Ceiling Cassette High Wall	A A B	1 1 1	619C024†† 619F024 619E024	538S048	45,800	4, 10
	27	In-Ceiling Cassette Ceiling Suspended	A B	2 1	619F024 619C024	538S048	45,800	1, 11
	28	High Wall In-Ceiling Cassette	A B	1 1	619E024 619F036	538S048	46,800	10, 12
	29	High Wall Ceiling Suspended	A B	1 1	619E024 619C024	538S048	45,600	10, 11

*Option numbers correlate to unit Price Page options. Contact your local representative for more details.

†Btuh capacity ratings describe fan coil unit combinations as listed in the Indoor Section column above.

**Cooling capacity table numbers reference tables on pages 23-34. When more than one table is referenced, add together the capacity data listed in each table for the system total capacity. This procedure is also appropriate for determining total system power and total compressor power.

††Unit must be field reconfigured for 18,000 Btuh operation. Refer to installation instructions included with fan coil unit for more details.

NOTES:

1. If a system consists of 2 fan coil units on each circuit (using a 538S048 condensing unit), and one fan coil unit is turned off, the resulting system capacity will change. For example, for system option no. 17 in the table above, with all fan coil units turned on and available for cooling, system capacities are determined using cooling capacity table numbers 1 and 2. If one of the 619F024 fan coil units is turned off (not available for operation), the new system capacity would be derived using cooling capacity tables 2 and 8 (43,400 Btuh). Contact your local representative for assistance with your specific application.
2. Tables 7, 8, and 9 show system performance with one fan coil running in a circuit designed for two fan coils. Using any of these units by themselves as the only fan coil on a circuit is not recommended. Performance data is provided for reference only.

PERFORMANCE DATA (cont)

COOLING CAPACITIES

TABLE NO. 1* — 538S024 (or 1 Circuit of 538S048 System) CONDENSING UNIT WITH TWO 619F024 IN-CEILING CASSETTE UNITS

TEMP (F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — CFM/BF											
		750/0.04				830/0.05				1050/0.07			
		Air Entering Evaporator — Ewb (F)											
		57	62	67	72	57	62	67	72	57	62	67	72
55	TCG	23.8	24.4	26.4	28.6	24.5	24.9	26.8	28.9	26.1	26.1	27.6	29.7
	SHG	23.8	22.6	18.8	14.8	24.5	23.8	19.7	15.3	26.1	26.1	22.1	16.8
	TC	23.2	23.8	25.8	28.0	23.9	24.2	26.2	28.3	25.3	25.3	26.8	28.9
	kW	1.42	1.42	1.42	1.43	1.44	1.44	1.44	1.45	1.50	1.50	1.50	1.50
	CMP	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
65	TCG	23.2	23.6	25.6	27.6	23.9	24.1	25.9	28.0	25.4	25.4	26.7	28.7
	SHG	23.2	22.2	18.4	14.4	23.9	23.4	19.3	15.0	25.4	25.4	21.7	16.4
	TC	22.6	23.0	25.0	27.0	23.2	23.4	25.3	27.3	24.5	24.5	25.9	27.9
	kW	1.56	1.56	1.57	1.57	1.58	1.58	1.59	1.59	1.64	1.64	1.64	1.65
	CMP	1.25	1.25	1.25	1.26	1.25	1.25	1.25	1.26	1.25	1.25	1.25	1.26
75	TCG	22.5	22.8	24.7	26.7	23.2	23.3	25.0	27.0	24.6	24.6	25.7	27.6
	SHC	22.5	21.8	18.1	14.1	23.2	22.9	19.0	14.6	24.6	24.6	21.3	16.0
	TC	21.9	22.2	24.1	26.1	22.5	22.6	24.4	26.3	23.8	23.8	24.9	26.8
	kW	1.73	1.73	1.73	1.74	1.75	1.75	1.75	1.76	1.80	1.80	1.81	1.81
	CMP	1.41	1.41	1.42	1.42	1.41	1.41	1.42	1.42	1.41	1.41	1.42	1.42
85	TCG	21.8	22.0	23.8	25.7	22.5	22.5	24.1	26.0	23.8	23.8	24.8	26.6
	SHG	21.8	21.4	17.7	13.7	22.5	22.4	18.6	14.2	23.8	23.8	20.9	15.7
	TC	21.2	21.4	23.2	25.1	21.8	21.8	23.5	25.3	23.0	23.0	23.9	25.8
	kW	1.91	1.91	1.92	1.92	1.93	1.93	1.94	1.94	1.99	1.99	1.99	2.00
	CMP	1.59	1.59	1.60	1.61	1.60	1.59	1.60	1.61	1.60	1.60	1.60	1.61
95	TCG	21.1	21.2	22.9	24.7	21.7	21.7	23.2	25.0	23.0	23.0	23.8	25.6
	SHG	21.1	20.9	17.3	13.4	21.7	21.7	18.2	13.9	23.0	23.0	20.5	15.3
	TC	20.6	20.7	22.3	24.1	21.1	21.1	22.5	24.4	22.2	22.2	23.0	24.8
	kW	2.12	2.12	2.12	2.13	2.14	2.14	2.14	2.16	2.20	2.20	2.20	2.21
	CMP	1.80	1.80	1.81	1.82	1.81	1.80	1.81	1.82	1.81	1.81	1.81	1.82
105	TCG	20.5	20.5	22.0	23.8	21.0	21.0	22.3	24.0	22.2	22.2	22.9	24.5
	SHG	20.5	20.4	17.0	13.0	21.0	21.0	17.8	13.5	22.2	22.2	20.1	14.9
	TC	19.9	19.9	21.4	23.2	20.4	20.4	21.6	23.4	21.4	21.4	22.0	23.7
	kW	2.35	2.35	2.36	2.37	2.38	2.38	2.38	2.39	2.44	2.43	2.44	2.45
	CMP	2.04	2.04	2.05	2.06	2.04	2.04	2.05	2.06	2.05	2.05	2.05	2.06
115	TCG	19.8	19.8	21.1	22.8	20.3	20.3	21.4	23.0	21.4	21.4	21.9	23.4
	SHG	19.8	19.8	16.6	12.7	20.3	20.3	17.5	13.2	21.4	21.4	19.7	14.4
	TC	19.2	19.2	20.5	22.2	19.7	19.7	20.7	22.4	20.6	20.6	21.1	22.6
	kW	2.62	2.62	2.63	2.64	2.64	2.64	2.65	2.67	2.71	2.70	2.71	2.72
	CMP	2.31	2.31	2.32	2.33	2.31	2.31	2.32	2.33	2.32	2.32	2.32	2.33
125	TCG	19.1	19.1	20.2	21.8	19.6	19.6	20.5	21.9	20.6	20.6	21.0	22.3
	SHG	19.1	19.1	16.2	12.3	19.6	19.6	17.1	12.8	20.6	20.6	19.3	14.0
	TC	18.5	18.5	19.6	21.2	18.9	18.9	19.8	21.3	19.8	19.8	20.1	21.5
	kW	2.92	2.93	2.94	2.95	2.95	2.95	2.96	2.97	3.01	3.01	3.01	3.03
	CMP	2.61	2.61	2.62	2.63	2.61	2.62	2.62	2.64	2.63	2.63	2.63	2.64

Rating condition.

LEGEND

BF — Bypass Factor
CMP — Compressor Power
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Total Power (Includes CMP)
SHG — Gross Sensible Capacity (1000 Btuh)
TC — Total Net Cooling Capacity (1000 Btuh)
TCG — Gross Cooling Capacity (1000 Btuh)

*Refer to Systems Index Table on page 21 for table number references. Many multi-split systems require the use of more than one cooling capacity table to determine system total capacity and power.

NOTES:
1. Direct interpolation is permissible. Do not extrapolate.
2. The SHG is based on 80 F edb temperature of air entering indoor coil.
   Below 80 F edb, subtract (corr factor x cfm) from SHG.
   Above 80 F edb, add (corr factor x cfm) to SHG.
   Correction Factor = 1.10 x (1 – BF) x (edb – 80).

PERFORMANCE DATA (cont)

COOLING CAPACITIES (cont)

TABLE NO. 2* — 538S024 (or 1 Circuit of 538S048 System) CONDENSING UNIT WITH TWO 619C024† CEILING-SUSPENDED UNITS

TEMP (F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — CFM/BF											
		640/0.01				800/0.01				1000/0.03			
		Air Entering Evaporator — Ewb (F)											
		57	62	67	72	57	62	67	72	57	62	67	72
55	TCG	24.0	24.8	26.8	29.0	25.7	25.9	27.7	29.9	27.3	27.3	28.5	30.6
	SHG	24.0	22.0	18.4	14.7	25.7	24.9	20.5	15.9	27.3	27.3	23.0	17.4
	TC	23.5	24.3	26.4	28.6	25.2	25.4	27.2	29.4	26.6	26.6	27.8	29.9
	kW	1.41	1.41	1.42	1.42	1.45	1.45	1.45	1.45	1.49	1.49	1.49	1.50
	CMP	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.16	1.15	1.15	1.15	1.16
65	TCG	23.3	24.0	25.9	28.1	25.0	25.1	26.8	28.9	26.5	26.5	27.5	29.5
	SHG	23.3	21.6	18.0	14.3	25.0	24.5	20.1	15.6	26.5	26.5	22.6	17.1
	TC	22.9	23.6	25.5	27.7	24.5	24.6	26.3	28.4	25.9	25.8	26.9	28.9
	kW	1.56	1.56	1.56	1.57	1.59	1.59	1.60	1.60	1.64	1.64	1.64	1.65
	CMP	1.29	1.29	1.30	1.30	1.30	1.30	1.30	1.31	1.30	1.30	1.30	1.31
75	TCG	22.7	23.2	25.1	27.2	24.3	24.3	25.9	27.9	25.7	25.7	26.6	28.5
	SHG	22.7	21.3	17.7	14.0	24.3	24.1	19.8	15.2	25.7	25.7	22.2	16.7
	TC	22.2	22.8	24.6	26.7	23.7	23.8	25.4	27.4	25.1	25.1	25.9	27.8
	kW	1.73	1.73	1.73	1.74	1.76	1.76	1.77	1.78	1.81	1.81	1.81	1.82
	CMP	1.46	1.46	1.47	1.47	1.47	1.47	1.47	1.48	1.47	1.47	1.47	1.48
85	TCG	22.0	22.4	24.2	26.2	23.5	23.5	25.0	26.9	24.9	24.9	25.6	27.5
	SHG	22.0	20.9	17.3	13.6	23.5	23.5	19.4	14.9	24.9	24.9	21.9	16.4
	TC	21.6	22.0	23.8	25.8	23.0	23.0	24.4	26.4	24.2	24.2	25.0	26.8
	kW	1.92	1.92	1.93	1.94	1.96	1.95	1.96	1.97	2.00	2.00	2.00	2.01
	CMP	1.65	1.65	1.66	1.67	1.66	1.66	1.66	1.67	1.66	1.66	1.67	1.67
95	TCG	21.3	21.6	23.3	25.3	22.8	22.8	24.0	25.9	24.1	24.1	24.7	26.4
	SHG	21.3	20.5	16.9	13.3	22.8	22.8	19.0	14.5	24.1	24.1	21.5	16.0
	TC	20.9	21.2	22.9	24.8	22.3	22.3	23.5	25.4	23.4	23.4	24.0	25.7
	kW	2.13	2.14	2.14	2.15	2.17	2.17	2.18	2.19	2.22	2.22	2.22	2.23
	CMP	1.87	1.87	1.88	1.89	1.87	1.88	1.88	1.89	1.88	1.88	1.88	1.90
105	TCG	20.6	20.8	22.4	24.3	22.0	22.0	23.1	24.9	23.3	23.3	23.7	25.4
	SHG	20.6	20.1	16.6	12.9	22.0	22.0	18.7	14.2	23.3	23.3	21.1	15.6
	TC	20.2	20.4	22.0	23.9	21.5	21.5	22.6	24.4	22.6	22.6	23.0	24.7
	kW	2.38	2.38	2.39	2.40	2.42	2.42	2.43	2.44	2.47	2.47	2.47	2.48
	CMP	2.11	2.11	2.12	2.14	2.12	2.12	2.13	2.14	2.13	2.13	2.13	2.15
115	TCG	20.0	20.0	21.5	23.3	21.3	21.3	22.2	23.9	22.4	22.4	22.7	24.3
	SHG	20.0	19.7	16.2	12.6	21.3	21.3	18.3	13.8	22.4	22.4	20.7	15.3
	TC	19.5	19.6	21.1	22.9	20.7	20.7	21.6	23.3	21.8	21.8	22.1	23.6
	kW	2.66	2.66	2.67	2.69	2.70	2.70	2.70	2.72	2.75	2.75	2.75	2.77
	CMP	2.39	2.39	2.40	2.42	2.40	2.40	2.41	2.42	2.41	2.41	2.41	2.43
125	TCG	19.3	19.3	20.6	22.3	20.5	20.5	21.2	22.8	21.6	21.6	21.8	23.2
	SHG	19.3	19.3	15.9	12.3	20.5	20.5	17.9	13.5	21.6	21.6	20.3	14.9
	TC	18.8	18.8	20.2	21.9	20.0	20.0	20.7	22.3	20.9	20.9	21.1	22.5
	kW	2.97	2.97	2.99	3.00	3.02	3.02	3.02	3.04	3.07	3.07	3.07	3.08
	CMP	2.71	2.71	2.72	2.74	2.72	2.72	2.73	2.74	2.73	2.73	2.73	2.75

Rating condition.

LEGEND

BF — Bypass Factor
CMP — Compressor Power
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Total Power (Includes CMP)
SHG — Gross Sensible Capacity (1000 Btuh)
TC — Total Net Cooling Capacity (1000 Btuh)
TCG — Gross Cooling Capacity (1000 Btuh)

*Refer to Systems Index Table on page 21 for table number references. Many multi-split systems require the use of more than one cooling capacity table to determine system total capacity and power.
†Field reconfigured for 18,000 Btuh. Refer to fan coil unit installation instructions for details.

NOTES:
1. Direct interpolation is permissible. Do not extrapolate.
2. The SHG is based on 80 F edb temperature of air entering indoor coil.
   Below 80 F edb, subtract (corr factor x cfm) from SHG.
   Above 80 F edb, add (corr factor x cfm) to SHG.
   Correction Factor = 1.10 x (1 – BF) x (edb – 80).

PERFORMANCE DATA (cont)

COOLING CAPACITIES (cont)

TABLE NO. 3* — 538S024 (or 1 Circuit of 38HDS048 System) CONDENSING UNIT WITH TWO 619E018 HIGH WALL UNITS

TEMP (F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — CFM/BF											
		720/0.12				828/0.13				900/0.15			
		Air Entering Evaporator — Ewb (F)											
		57	62	67	72	57	62	67	72	57	62	67	72
55	TCG	22.8	23.7	25.8	28.0	23.8	24.3	26.4	28.6	24.8	25.0	27.0	29.2
	SHG	22.8	21.3	17.8	14.2	23.8	22.8	18.9	14.9	24.8	24.4	20.2	15.7
	TC	22.5	23.5	25.6	27.8	23.5	24.1	26.1	28.3	24.4	24.6	26.6	28.8
	kW	1.31	1.31	1.31	1.32	1.32	1.32	1.32	1.33	1.34	1.34	1.34	1.34
	CMP	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.11	1.10	1.10	1.10	1.11
65	TCG	22.2	23.0	25.0	27.1	23.1	23.6	25.6	27.7	24.1	24.2	26.1	28.2
	SHG	22.2	20.9	17.4	13.9	23.1	22.4	18.6	14.6	24.1	23.9	19.9	15.4
	TC	21.9	22.7	24.8	26.9	22.8	23.3	25.3	27.4	23.7	23.9	25.7	27.9
	kW	1.45	1.45	1.45	1.46	1.46	1.46	1.47	1.47	1.48	1.48	1.48	1.49
	CMP	1.24	1.24	1.24	1.25	1.24	1.24	1.24	1.25	1.24	1.24	1.24	1.25
75	TCG	21.6	22.2	24.2	26.2	22.5	22.8	24.7	26.7	23.4	23.4	25.2	27.2
	SHG	21.6	20.5	17.1	13.5	22.5	21.9	18.2	14.2	23.4	23.3	19.5	15.0
	TC	21.3	22.0	23.9	26.0	22.2	22.5	24.4	26.5	23.0	23.1	24.8	26.9
	kW	1.61	1.61	1.62	1.62	1.62	1.62	1.63	1.64	1.64	1.64	1.64	1.65
	CMP	1.40	1.40	1.40	1.41	1.40	1.40	1.40	1.41	1.40	1.40	1.41	1.41
85	TCG	20.9	21.4	23.3	25.3	21.8	22.0	23.8	25.8	22.6	22.6	24.3	26.3
	SHG	20.9	20.1	16.7	13.2	21.8	21.5	17.9	13.9	22.6	22.6	19.1	14.7
	TC	20.7	21.2	23.1	25.1	21.5	21.7	23.5	25.5	22.3	22.3	23.9	25.9
	kW	1.79	1.79	1.80	1.81	1.81	1.81	1.81	1.82	1.82	1.82	1.83	1.84
	CMP	1.58	1.58	1.59	1.60	1.58	1.58	1.59	1.60	1.58	1.59	1.59	1.60
95	TCG	20.3	20.7	22.5	24.4	21.1	21.2	22.9	24.8	21.9	21.9	23.3	25.3
	SHG	20.3	19.7	16.4	12.9	21.1	21.0	17.5	13.5	21.9	21.9	18.8	14.3
	TC	20.0	20.4	22.2	24.1	20.8	20.9	22.6	24.5	21.6	21.6	23.0	24.9
	kW	2.00	2.00	2.01	2.02	2.01	2.01	2.02	2.03	2.03	2.03	2.03	2.05
	CMP	1.79	1.79	1.80	1.80	1.79	1.79	1.80	1.81	1.79	1.79	1.80	1.81
105	TCG	19.7	19.9	21.6	23.5	20.4	20.5	22.0	23.9	21.2	21.2	22.4	24.3
	SHG	19.7	19.3	16.0	12.5	20.4	20.4	17.2	13.2	21.2	21.2	18.4	14.0
	TC	19.4	19.7	21.4	23.2	20.2	20.2	21.7	23.6	20.9	20.9	22.1	23.9
	kW	2.23	2.23	2.24	2.25	2.25	2.25	2.26	2.27	2.26	2.27	2.27	2.28
	CMP	2.02	2.02	2.03	2.04	2.02	2.02	2.03	2.04	2.03	2.03	2.03	2.05
115	TCG	19.0	19.2	20.8	22.5	19.8	19.8	21.2	22.9	20.5	20.5	21.5	23.3
	SHG	19.0	18.9	15.7	12.2	19.8	19.8	16.8	12.8	20.5	20.5	18.1	13.6
	TC	18.8	18.9	20.5	22.3	19.5	19.5	20.9	22.6	20.2	20.2	21.2	22.9
	kW	2.50	2.50	2.51	2.52	2.51	2.51	2.52	2.54	2.53	2.53	2.54	2.55
	CMP	2.28	2.28	2.30	2.31	2.29	2.29	2.30	2.31	2.29	2.30	2.30	2.32
125	TCG	18.4	18.4	19.9	21.6	19.1	19.1	20.3	21.9	19.8	19.8	20.6	22.3
	SHG	18.4	18.4	15.4	11.9	19.1	19.1	16.4	12.5	19.8	19.8	17.7	13.3
	TC	18.1	18.2	19.6	21.3	18.8	18.8	20.0	21.6	19.4	19.4	20.2	21.9
	kW	2.80	2.80	2.81	2.83	2.81	2.81	2.83	2.84	2.83	2.84	2.84	2.86
	CMP	2.58	2.58	2.60	2.62	2.59	2.59	2.60	2.62	2.60	2.60	2.60	2.62

Rating condition.

*Refer to Systems Index Table on page 21 for table number references. Many multi-split systems require the use of more than one cooling capacity table to determine system total capacity and power.

LEGEND

BF — Bypass Factor
CMP — Compressor Power
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Total Power (Includes CMP)
SHG — Gross Sensible Capacity (1000 Btuh)
TC — Total Net Cooling Capacity (1000 Btuh)
TCG — Gross Cooling Capacity (1000 Btuh)

NOTES:
1. Direct interpolation is permissible. Do not extrapolate.
2. The SHG is based on 80 F edb temperature of air entering indoor coil.
   Below 80 F edb, subtract (corr factor x cfm) from SHG.
   Above 80 F edb, add (corr factor x cfm) to SHG.
   Correction Factor = 1.10 x (1 – BF) x (edb – 80).

COOLING CAPACITIES (cont)

TABLE NO. 4* — 538S024 (or 1 Circuit of 538S048 System) CONDENSING UNIT WITH ONE 619C024† CEILING-SUSPENDED UNIT AND ONE 619F024 IN-CEILING CASSETTE UNIT

TEMP (F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — CFM/BF											
		695/0.06				815/0.07				1025/0.09			
		Air Entering Evaporator — Ewb (F)											
		57	62	67	72	57	62	67	72	57	62	67	72
55	TCG	22.9	23.8	25.9	28.1	24.1	24.5	26.5	28.7	25.6	25.6	27.4	29.5
	SHG	22.9	21.4	17.9	14.3	24.1	23.2	19.3	15.1	25.6	25.6	21.6	16.5
	TC	22.5	23.4	25.4	27.6	23.6	24.0	26.0	28.2	25.0	25.0	26.7	28.9
	kW	1.43	1.43	1.44	1.44	1.46	1.46	1.46	1.47	1.50	1.50	1.50	1.51
	CMP	1.15	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.17
65	TCG	22.3	23.0	25.0	27.2	23.4	23.7	25.7	27.8	24.9	24.9	26.4	28.6
	SHG	22.3	21.1	17.6	13.9	23.4	22.8	18.9	14.8	24.9	24.9	21.2	16.2
	TC	21.9	22.6	24.6	26.7	22.9	23.2	25.2	27.3	24.2	24.2	25.8	27.9
	kW	1.58	1.58	1.59	1.59	1.61	1.61	1.61	1.62	1.65	1.65	1.65	1.66
	CMP	1.30	1.30	1.31	1.31	1.30	1.31	1.31	1.32	1.31	1.31	1.31	1.32
75	TCG	21.7	22.3	24.2	26.3	22.7	22.9	24.8	26.8	24.2	24.2	25.5	27.6
	SHG	21.7	20.7	17.2	13.6	22.7	22.4	18.6	14.4	24.2	24.2	20.9	15.8
	TC	21.3	21.8	23.8	25.8	22.2	22.4	24.3	26.3	23.5	23.5	24.8	26.9
	kW	1.75	1.75	1.76	1.76	1.78	1.78	1.78	1.79	1.82	1.82	1.83	1.83
	CMP	1.47	1.47	1.48	1.49	1.47	1.47	1.48	1.49	1.48	1.48	1.48	1.49
85	TCG	21.1	21.5	23.4	25.3	22.1	22.2	23.9	25.9	23.4	23.4	24.6	26.5
	SHG	21.1	20.3	16.9	13.3	22.1	21.9	18.2	14.1	23.4	23.4	20.5	15.5
	TC	20.6	21.1	22.9	24.9	21.6	21.6	23.4	25.4	22.8	22.8	23.9	25.9
	kW	1.94	1.94	1.95	1.96	1.97	1.97	1.98	1.99	2.01	2.01	2.02	2.03
	CMP	1.66	1.66	1.67	1.68	1.67	1.67	1.67	1.68	1.67	1.67	1.68	1.69
95	TCG	20.4	20.7	22.5	24.4	21.4	21.4	23.0	24.9	22.7	22.7	23.6	25.5
	SHG	20.4	19.9	16.5	12.9	21.4	21.4	17.9	13.8	22.7	22.7	20.1	15.1
	TC	20.0	20.3	22.1	24.0	20.9	20.9	22.5	24.4	22.0	22.0	23.0	24.9
	kW	2.16	2.16	2.17	2.18	2.19	2.19	2.19	2.21	2.23	2.23	2.24	2.25
	CMP	1.88	1.88	1.89	1.90	1.88	1.88	1.89	1.90	1.89	1.89	1.90	1.91
105	TCG	19.8	20.0	21.6	23.5	20.7	20.7	22.1	24.0	21.9	21.9	22.7	24.5
	SHG	19.8	19.5	16.2	12.6	20.7	20.7	17.5	13.4	21.9	21.9	19.8	14.8
	TC	19.4	19.5	21.2	23.1	20.2	20.2	21.6	23.5	21.3	21.3	22.1	23.9
	kW	2.41	2.41	2.42	2.43	2.43	2.43	2.44	2.46	2.48	2.48	2.49	2.50
	CMP	2.13	2.13	2.14	2.15	2.13	2.13	2.14	2.15	2.14	2.14	2.15	2.16
115	TCG	19.1	19.2	20.8	22.6	20.0	20.0	21.2	23.0	21.1	21.1	21.8	23.5
	SHG	19.1	19.0	15.8	12.3	20.0	20.0	17.2	13.1	21.1	21.1	19.4	14.4
	TC	18.7	18.8	20.4	22.1	19.5	19.5	20.7	22.5	20.5	20.5	21.1	22.9
	kW	2.68	2.69	2.70	2.72	2.72	2.72	2.73	2.74	2.77	2.76	2.77	2.79
	CMP	2.40	2.41	2.42	2.44	2.41	2.41	2.42	2.44	2.42	2.42	2.43	2.44
125	TCG	18.5	18.5	19.9	21.6	19.3	19.3	20.3	22.0	20.3	20.3	20.8	22.5
	SHG	18.5	18.5	15.5	11.9	19.3	19.3	16.8	12.7	20.3	20.3	19.0	14.1
	TC	18.0	18.0	19.5	21.2	18.8	18.8	19.8	21.5	19.7	19.7	20.2	21.8
	kW	3.00	3.00	3.02	3.04	3.03	3.04	3.05	3.06	3.09	3.09	3.09	3.11
	CMP	2.72	2.73	2.74	2.76	2.73	2.73	2.74	2.76	2.74	2.74	2.75	2.77

Rating condition.

LEGEND

BF — Bypass Factor
CMP — Compressor Power
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Total Power (Includes CMP)
SHG — Gross Sensible Capacity (1000 Btuh)
TC — Total Net Cooling Capacity (1000 Btuh)
TCG — Gross Cooling Capacity (1000 Btuh)

*Refer to Systems Index Table on page 21 for table number references. Many multi-split systems require the use of more than one cooling capacity table to determine system total capacity and power.
†Field reconfigured for 18,000 Btuh. Refer to fan coil unit installation instructions for details.

NOTES:
1. Direct interpolation is permissible. Do not extrapolate.
2. The SHG is based on 80 F edb temperature of air entering indoor coil.
   Below 80 F edb, subtract (corr factor x cfm) from SHG.
   Above 80 F edb, add (corr factor x cfm) to SHG.
   Correction Factor = 1.10 x (1 – BF) x (edb – 80).

PERFORMANCE DATA (cont)

COOLING CAPACITIES (cont)

TABLE NO. 5* — 538S024 (or 1 Circuit of 538S048 System) CONDENSING UNIT WITH ONE 619F024 IN-CEILING CASSETTE UNIT AND ONE 619E018 HIGH WALL UNIT

TEMP (F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — CFM/BF											
		735/0.12				829/0.13				1005/0.15			
		Air Entering Evaporator — Ewb (F)											
		57	62	67	72	57	62	67	72	57	62	67	72
55	TCG	23.1	24.0	26.1	28.3	24.0	24.5	26.6	28.8	25.2	25.4	27.3	29.5
	SHG	23.1	21.7	18.1	14.4	24.0	23.0	19.1	15.0	25.2	25.0	20.9	16.1
	TC	22.7	23.6	25.7	27.9	23.4	24.0	26.1	28.3	24.6	24.7	26.7	28.9
	kW	1.38	1.38	1.38	1.39	1.40	1.40	1.40	1.41	1.43	1.43	1.44	1.44
	CMP	1.11	1.11	1.11	1.12	1.11	1.11	1.11	1.12	1.11	1.11	1.12	1.12
65	TCG	22.5	23.3	25.3	27.4	23.3	23.7	25.8	27.9	24.5	24.6	26.4	28.6
	SHG	22.5	21.3	17.8	14.1	23.3	22.6	18.7	14.7	24.5	24.5	20.5	15.8
	TC	22.0	22.8	24.8	27.0	22.8	23.2	25.2	27.4	23.9	23.9	25.8	27.9
	kW	1.52	1.52	1.53	1.53	1.54	1.54	1.55	1.55	1.58	1.58	1.58	1.59
	CMP	1.25	1.25	1.26	1.26	1.25	1.25	1.26	1.26	1.25	1.25	1.26	1.27
75	TCG	21.9	22.5	24.4	26.5	22.6	22.9	24.9	27.0	23.8	23.8	25.5	27.6
	SHG	21.9	20.9	17.4	13.7	22.6	22.1	18.4	14.4	23.8	23.8	20.1	15.4
	TC	21.4	22.0	24.0	26.1	22.1	22.4	24.4	26.4	23.2	23.2	24.9	27.0
	kW	1.69	1.69	1.69	1.70	1.70	1.70	1.71	1.72	1.74	1.74	1.74	1.75
	CMP	1.41	1.42	1.42	1.43	1.42	1.42	1.42	1.43	1.42	1.42	1.42	1.43
85	TCG	21.2	21.7	23.6	25.6	22.0	22.2	24.0	26.0	23.1	23.1	24.6	26.6
	SHG	21.2	20.5	17.0	13.4	22.0	21.7	18.0	14.0	23.1	23.1	19.8	15.1
	TC	20.8	21.2	23.1	25.1	21.4	21.6	23.5	25.5	22.4	22.4	23.9	26.0
	kW	1.87	1.87	1.88	1.89	1.89	1.89	1.89	1.90	1.92	1.93	1.93	1.94
	CMP	1.60	1.60	1.60	1.61	1.60	1.60	1.61	1.61	1.60	1.60	1.61	1.62
95	TCG	20.6	20.9	22.7	24.7	21.3	21.4	23.1	25.0	22.3	22.3	23.6	25.6
	SHG	20.6	20.1	16.7	13.1	21.3	21.2	17.7	13.7	22.3	22.3	19.4	14.7
	TC	20.1	20.5	22.3	24.2	20.8	20.9	22.6	24.5	21.7	21.7	23.0	24.9
	kW	2.08	2.08	2.09	2.10	2.10	2.10	2.10	2.12	2.14	2.13	2.14	2.15
	CMP	1.81	1.81	1.81	1.83	1.81	1.81	1.82	1.83	1.81	1.81	1.82	1.83
105	TCG	20.0	20.1	21.9	23.7	20.6	20.6	22.2	24.1	21.6	21.6	22.7	24.6
	SHG	20.0	19.7	16.3	12.7	20.6	20.6	17.3	13.3	21.6	21.6	19.0	14.3
	TC	19.5	19.7	21.4	23.3	20.1	20.1	21.7	23.5	21.0	21.0	22.1	23.9
	kW	2.31	2.31	2.32	2.34	2.33	2.33	2.34	2.36	2.37	2.37	2.38	2.39
	CMP	2.04	2.04	2.05	2.07	2.05	2.04	2.05	2.07	2.05	2.05	2.06	2.07
115	TCG	19.3	19.4	21.0	22.8	19.9	19.9	21.3	23.1	20.9	20.9	21.8	23.5
	SHG	19.3	19.2	16.0	12.4	19.9	19.9	17.0	13.0	20.9	20.9	18.7	14.0
	TC	18.8	18.9	20.5	22.3	19.4	19.4	20.8	22.6	20.2	20.2	21.2	22.9
	kW	2.58	2.58	2.59	2.61	2.60	2.60	2.62	2.63	2.64	2.64	2.65	2.67
	CMP	2.31	2.31	2.32	2.34	2.32	2.32	2.33	2.34	2.32	2.32	2.33	2.34
125	TCG	18.7	18.7	20.1	21.8	19.2	19.2	20.4	22.1	20.1	20.1	20.8	22.5
	SHG	18.7	18.6	15.6	12.0	19.2	19.2	16.6	12.6	20.1	20.1	18.3	13.7
	TC	18.2	18.2	19.7	21.4	18.7	18.7	19.9	21.6	19.5	19.5	20.2	21.9
	kW	2.89	2.89	2.90	2.92	2.91	2.91	2.92	2.94	2.95	2.95	2.96	2.98
	CMP	2.61	2.62	2.63	2.65	2.62	2.62	2.63	2.65	2.63	2.63	2.64	2.65

Rating condition.

*Refer to Systems Index Table on page 21 for table number references. Many multi-split systems require the use of more than one cooling capacity table to determine system total capacity and power.

LEGEND

BF — Bypass Factor
CMP — Compressor Power
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Total Power (Includes CMP)
SHG — Gross Sensible Capacity (1000 Btuh)
TC — Total Net Cooling Capacity (1000 Btuh)
TCG — Gross Cooling Capacity (1000 Btuh)

NOTES:
1. Direct interpolation is permissible. Do not extrapolate.
2. The SHG is based on 80 F edb temperature of air entering indoor coil.
   Below 80 F edb, subtract (corr factor x cfm) from SHG.
   Above 80 F edb, add (corr factor x cfm) to SHG.
   Correction Factor = 1.10 x (1 – BF) x (edb – 80).

PERFORMANCE DATA (cont)

COOLING CAPACITIES (cont)

TABLE NO. 6* — 538S024 (or 1 Circuit of 538S048 System) CONDENSING UNIT WITH ONE 619C024† CEILING-SUSPENDED UNIT AND ONE 619E018 HIGH WALL UNIT

TEMP (F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — CFM/BF											
		680/0.08				814/0.10				980/0.12			
		Air Entering Evaporator — Ewb (F)											
		57	62	67	72	57	62	67	72	57	62	67	72
55	TCG	22.6	23.6	25.7	27.9	23.9	24.4	26.4	28.6	25.1	25.2	27.1	29.3
	SHG	22.6	21.0	17.6	14.1	23.9	22.9	19.1	15.0	25.1	25.0	20.8	16.1
	TC	22.3	23.3	25.4	27.5	23.5	24.0	26.0	28.2	24.6	24.7	26.6	28.8
	kW	1.38	1.38	1.38	1.38	1.40	1.40	1.40	1.41	1.42	1.42	1.43	1.43
	CMP	1.13	1.13	1.14	1.14	1.13	1.13	1.14	1.14	1.14	1.14	1.14	1.15
65	TCG	22.0	22.8	24.9	27.0	23.2	23.6	25.6	27.7	24.4	24.4	26.2	28.3
	SHG	22.0	20.6	17.2	13.7	23.2	22.6	18.7	14.7	24.4	24.4	20.5	15.7
	TC	21.7	22.5	24.5	26.7	22.8	23.2	25.2	27.3	23.9	23.9	25.7	27.9
	kW	1.52	1.52	1.53	1.53	1.54	1.54	1.55	1.55	1.57	1.57	1.57	1.58
	CMP	1.28	1.28	1.28	1.29	1.28	1.28	1.29	1.29	1.28	1.28	1.29	1.30
75	TCG	21.4	22.1	24.0	26.1	22.6	22.8	24.7	26.8	23.7	23.7	25.3	27.4
	SHG	21.4	20.2	16.9	13.4	22.6	22.1	18.4	14.3	23.7	23.7	20.1	15.4
	TC	21.1	21.8	23.7	25.8	22.2	22.4	24.3	26.4	23.2	23.2	24.8	26.9
	kW	1.69	1.69	1.69	1.70	1.71	1.71	1.72	1.72	1.74	1.74	1.74	1.75
	CMP	1.44	1.45	1.45	1.46	1.45	1.45	1.45	1.46	1.45	1.45	1.46	1.46
85	TCG	20.8	21.3	23.2	25.2	21.9	22.1	23.8	25.8	23.0	23.0	24.4	26.4
	SHG	20.8	19.9	16.5	13.1	21.9	21.7	18.0	14.0	23.0	23.0	19.8	15.0
	TC	20.5	21.0	22.9	24.9	21.5	21.7	23.4	25.4	22.5	22.5	23.9	25.9
	kW	1.88	1.88	1.88	1.89	1.90	1.90	1.91	1.92	1.93	1.93	1.93	1.94
	CMP	1.63	1.64	1.64	1.65	1.64	1.64	1.64	1.65	1.64	1.64	1.65	1.65
95	TCG	20.2	20.6	22.4	24.3	21.2	21.3	23.0	24.9	22.2	22.3	23.5	25.4
	SHG	20.2	19.5	16.2	12.7	21.2	21.2	17.7	13.6	22.2	22.3	19.4	14.7
	TC	19.8	20.2	22.0	24.0	20.8	20.9	22.6	24.5	21.8	21.8	23.0	24.9
	kW	2.09	2.09	2.10	2.11	2.11	2.11	2.12	2.13	2.14	2.14	2.15	2.16
	CMP	1.85	1.85	1.85	1.87	1.85	1.85	1.86	1.87	1.85	1.86	1.86	1.87
105	TCG	19.5	19.8	21.5	23.4	20.5	20.5	22.1	23.9	21.5	21.5	22.6	24.4
	SHG	19.5	19.1	15.8	12.4	20.5	20.5	17.3	13.3	21.5	21.5	19.0	14.4
	TC	19.2	19.5	21.2	23.0	20.1	20.1	21.7	23.5	21.0	21.0	22.1	23.9
	kW	2.33	2.33	2.34	2.35	2.36	2.36	2.37	2.38	2.39	2.39	2.39	2.41
	CMP	2.09	2.09	2.10	2.11	2.09	2.09	2.10	2.11	2.10	2.10	2.10	2.12
115	TCG	18.9	19.1	20.7	22.5	19.9	19.9	21.2	22.9	20.8	20.8	21.6	23.4
	SHG	18.9	18.7	15.5	12.1	19.9	19.9	17.0	12.9	20.8	20.8	18.6	14.0
	TC	18.6	18.7	20.3	22.1	19.5	19.5	20.8	22.5	20.3	20.3	21.1	22.9
	kW	2.60	2.61	2.62	2.63	2.63	2.63	2.64	2.66	2.66	2.66	2.67	2.69
	CMP	2.36	2.36	2.37	2.39	2.37	2.37	2.38	2.39	2.37	2.38	2.38	2.40
125	TCG	18.3	18.3	19.8	21.5	19.2	19.2	20.3	22.0	20.0	20.0	20.7	22.4
	SHG	18.3	18.2	15.2	11.7	19.2	19.2	16.6	12.6	20.0	20.0	18.3	13.6
	TC	17.9	18.0	19.5	21.2	18.8	18.8	19.9	21.6	19.5	19.5	20.2	21.9
	kW	2.91	2.92	2.93	2.95	2.94	2.94	2.96	2.97	2.98	2.98	2.98	3.00
	CMP	2.67	2.67	2.69	2.71	2.68	2.68	2.69	2.71	2.69	2.69	2.70	2.72

Rating condition.

LEGEND

BF — Bypass Factor
CMP — Compressor Power
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Total Power (Includes CMP)
SHG — Gross Sensible Capacity (1000 Btuh)
TC — Total Net Cooling Capacity (1000 Btuh)
TCG — Gross Cooling Capacity (1000 Btuh)

*Refer to Systems Index Table on page 21 for table number references. Many multi-split systems require the use of more than one cooling capacity table to determine system total capacity and power.
†Field reconfigured for 18,000 Btuh. Refer to fan coil unit installation instructions for details.

NOTES:
1. Direct interpolation is permissible. Do not extrapolate.
2. The SHG is based on 80 F edb temperature of air entering indoor coil.
   Below 80 F edb, subtract (corr factor x cfm) from SHG.
   Above 80 F edb, add (corr factor x cfm) to SHG.
   Correction Factor = 1.10 x (1 – BF) x (edb – 80).

PERFORMANCE DATA (cont)

COOLING CAPACITIES (cont)

TABLE NO. 7* — 538S024 (or 1 Circuit of 538S048 System) CONDENSING UNIT WITH ONE 619C024† CEILING-SUSPENDED UNIT

TEMP (F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — CFM/BF											
		320/0.01				400/0.03				500/0.05			
		Air Entering Evaporator — Ewb (F)											
		57	62	67	72	57	62	67	72	57	62	67	72
55	TCG	17.6	19.2	21.0	23.0	18.9	20.4	22.2	24.2	20.4	21.4	23.2	25.2
	SHG	16.3	14.5	12.7	10.9	18.4	16.1	13.9	11.6	20.4	18.0	15.2	12.3
	TC	17.4	19.0	20.8	22.8	18.7	20.1	22.0	23.9	20.1	21.1	22.9	24.9
	kW	1.36	1.35	1.35	1.34	1.37	1.36	1.36	1.36	1.38	1.38	1.38	1.38
	CMP	1.17	1.16	1.15	1.15	1.16	1.15	1.15	1.15	1.15	1.15	1.15	1.15
65	TCG	17.1	18.6	20.4	22.3	18.4	19.8	21.6	23.5	19.9	20.8	22.5	24.4
	SHG	16.0	14.2	12.4	10.6	18.0	15.8	13.6	11.3	19.9	17.6	14.8	12.1
	TC	16.9	18.4	20.2	22.1	18.1	19.5	21.3	23.2	19.6	20.5	22.2	24.1
	kW	1.51	1.50	1.49	1.49	1.52	1.51	1.51	1.51	1.53	1.53	1.52	1.53
	CMP	1.31	1.30	1.30	1.29	1.30	1.30	1.30	1.29	1.30	1.30	1.29	1.30
75	TCG	16.6	18.1	19.8	21.6	17.9	19.2	20.9	22.7	19.3	20.1	21.8	23.6
	SHG	15.7	13.9	12.1	10.3	17.7	15.5	13.3	11.0	19.3	17.3	14.5	11.7
	TC	16.4	17.9	19.6	21.4	17.6	18.9	20.7	22.5	19.0	19.8	21.5	23.3
	kW	1.67	1.66	1.66	1.66	1.68	1.68	1.68	1.67	1.69	1.69	1.69	1.69
	CMP	1.48	1.47	1.46	1.46	1.47	1.47	1.46	1.46	1.46	1.46	1.46	1.46
85	TCG	16.1	17.5	19.2	21.0	17.4	18.6	20.2	22.0	18.8	19.5	21.1	22.8
	SHG	15.4	13.6	11.8	9.97	17.3	15.2	13.0	10.7	18.8	17.0	14.2	11.4
	TC	15.9	17.3	19.0	20.8	17.1	18.3	20.0	21.8	18.5	19.1	20.7	22.5
	kW	1.86	1.85	1.85	1.85	1.87	1.87	1.87	1.87	1.88	1.88	1.88	1.89
	CMP	1.66	1.66	1.65	1.65	1.66	1.66	1.65	1.66	1.65	1.65	1.65	1.66
95	TCG	15.6	17.0	18.6	20.3	16.9	17.9	19.6	21.3	18.3	18.8	20.3	22.0
	SHG	15.1	13.3	11.5	9.69	16.9	14.9	12.7	10.4	18.3	16.7	13.9	11.1
	TC	15.4	16.8	18.4	20.1	16.7	17.7	19.3	21.0	17.9	18.5	20.0	21.7
	kW	2.07	2.06	2.06	2.07	2.08	2.08	2.08	2.08	2.10	2.10	2.10	2.10
	CMP	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87
105	TCG	15.1	16.4	18.0	19.7	16.4	17.3	18.9	20.5	17.7	18.1	19.6	21.2
	SHG	14.8	13.0	11.3	9.40	16.4	14.6	12.4	10.1	17.7	16.4	13.6	10.8
	TC	14.9	16.2	17.8	19.5	16.2	17.1	18.6	20.3	17.4	17.8	19.3	20.9
	kW	2.31	2.30	2.30	2.31	2.32	2.32	2.32	2.33	2.34	2.34	2.34	2.35
	CMP	2.11	2.11	2.11	2.11	2.11	2.11	2.11	2.12	2.11	2.11	2.11	2.12
115	TCG	14.6	15.8	17.4	19.0	15.9	16.7	18.2	19.8	17.2	17.5	18.9	20.4
	SHG	14.5	12.8	11.0	9.11	15.9	14.3	12.1	9.78	17.2	16.0	13.3	10.5
	TC	14.4	15.6	17.2	18.8	15.7	16.5	17.9	19.5	16.9	17.2	18.6	20.1
	kW	2.57	2.57	2.58	2.59	2.59	2.59	2.60	2.61	2.61	2.61	2.62	2.63
	CMP	2.37	2.38	2.38	2.39	2.38	2.38	2.39	2.40	2.38	2.38	2.39	2.40
125	TCG	14.2	15.3	16.7	18.3	15.4	16.1	17.5	19.0	16.6	16.8	18.1	19.6
	SHG	14.2	12.5	10.7	8.82	15.4	14.0	11.8	9.47	16.6	15.7	13.0	10.2
	TC	14.0	15.1	16.5	18.1	15.2	15.8	17.3	18.7	16.3	16.5	17.8	19.3
	kW	2.88	2.88	2.89	2.90	2.90	2.90	2.91	2.92	2.92	2.92	2.93	2.94
	CMP	2.68	2.69	2.69	2.70	2.69	2.69	2.70	2.71	2.69	2.69	2.70	2.71

Rating condition.

LEGEND

BF — Bypass Factor
CMP — Compressor Power
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Total Power (Includes CMP)
SHG — Gross Sensible Capacity (1000 Btuh)
TC — Total Net Cooling Capacity (1000 Btuh)
TCG — Gross Cooling Capacity (1000 Btuh)

*Refer to Systems Index Table on page 21 for table number references. Many multi-split systems require the use of more than one cooling capacity table to determine system total capacity and power.
†Field reconfigured for 18,000 Btuh. Refer to fan coil unit installation instructions for details.

NOTES:
1. Direct interpolation is permissible. Do not extrapolate.
2. The SHG is based on 80 F edb temperature of air entering indoor coil.
   Below 80 F edb, subtract (corr factor x cfm) from SHG.
   Above 80 F edb, add (corr factor x cfm) to SHG.
   Correction Factor = 1.10 x (1 – BF) x (edb – 80).

PERFORMANCE DATA (cont)

COOLING CAPACITIES (cont)

TABLE NO. 8* — 538S024 (or 1 Circuit of 538S048 System) CONDENSING UNIT WITH ONE 619F024 IN-CEILING CASSETTE UNIT

TEMP (F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — CFM/BF											
		375/0.09				415/0.11				525/0.13			
		Air Entering Evaporator — Ewb (F)											
		57	62	67	72	57	62	67	72	57	62	67	72
55	TCG	17.5	19.2	21.0	22.9	18.1	19.7	21.5	23.4	19.3	20.8	22.7	24.6
	SHG	16.6	14.8	12.9	10.9	17.4	15.5	13.4	11.2	19.3	17.2	14.6	12.0
	TC	17.2	18.9	20.7	22.6	17.7	19.3	21.2	23.1	18.9	20.4	22.2	24.2
	kW	1.38	1.37	1.36	1.36	1.38	1.37	1.37	1.37	1.40	1.40	1.39	1.39
	CMP	1.14	1.13	1.13	1.12	1.14	1.13	1.13	1.12	1.13	1.13	1.12	1.12
65	TCG	17.0	18.6	20.4	22.2	17.5	19.1	20.9	22.7	18.8	20.2	22.0	23.8
	SHG	16.3	14.5	12.6	10.6	17.1	15.1	13.1	10.9	18.8	16.9	14.3	11.7
	TC	16.7	18.3	20.0	21.9	17.2	18.8	20.5	22.4	18.4	19.7	21.5	23.4
	kW	1.52	1.51	1.50	1.50	1.53	1.52	1.51	1.51	1.55	1.54	1.54	1.54
	CMP	1.29	1.28	1.27	1.27	1.28	1.27	1.27	1.27	1.28	1.27	1.27	1.27
75	TCG	16.5	18.0	19.8	21.5	17.0	18.5	20.2	22.0	18.3	19.5	21.3	23.0
	SHG	16.0	14.2	12.3	10.3	16.7	14.8	12.8	10.6	18.3	16.6	14.0	11.4
	TC	16.2	17.7	19.4	21.2	16.7	18.2	19.9	21.7	17.9	19.1	20.8	22.6
	kW	1.68	1.67	1.67	1.67	1.69	1.68	1.68	1.68	1.71	1.70	1.70	1.70
	CMP	1.45	1.44	1.43	1.43	1.44	1.44	1.43	1.43	1.44	1.43	1.43	1.43
85	TCG	16.0	17.5	19.1	20.9	16.5	17.9	19.6	21.3	17.8	18.9	20.6	22.3
	SHG	15.6	13.9	12.0	10.0	16.4	14.5	12.4	10.3	17.8	16.2	13.7	11.1
	TC	15.7	17.2	18.8	20.6	16.2	17.6	19.2	21.0	17.4	18.4	20.1	21.9
	kW	1.86	1.86	1.85	1.85	1.87	1.86	1.86	1.86	1.89	1.89	1.89	1.89
	CMP	1.63	1.62	1.62	1.62	1.63	1.62	1.62	1.62	1.62	1.62	1.62	1.62
95	TCG	15.5	16.9	18.5	20.2	16.0	17.3	19.0	20.6	17.3	18.2	19.9	21.5
	SHG	15.3	13.6	11.7	9.73	16.0	14.2	12.2	10.0	17.3	15.9	13.4	10.8
	TC	15.2	16.6	18.2	19.9	15.7	17.0	18.6	20.3	16.9	17.8	19.4	21.1
	kW	2.07	2.07	2.06	2.06	2.07	2.07	2.07	2.07	2.10	2.10	2.10	2.10
	CMP	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83
105	TCG	15.0	16.4	17.9	19.5	15.5	16.7	18.3	19.9	16.8	17.6	19.1	20.7
	SHG	14.9	13.3	11.4	9.44	15.5	13.9	11.9	9.73	16.8	15.6	13.1	10.5
	TC	14.7	16.0	17.6	19.2	15.2	16.4	17.9	19.6	16.4	17.1	18.7	20.3
	kW	2.30	2.30	2.30	2.30	2.31	2.31	2.31	2.31	2.34	2.33	2.34	2.34
	CMP	2.07	2.07	2.07	2.07	2.06	2.07	2.07	2.07	2.07	2.06	2.07	2.07
115	TCG	14.6	15.8	17.3	18.8	15.1	16.2	17.7	19.2	16.3	16.9	18.4	19.9
	SHG	14.6	13.0	11.1	9.17	15.1	13.6	11.6	9.45	16.3	15.3	12.8	10.2
	TC	14.2	15.5	17.0	18.5	14.7	15.8	17.3	18.8	15.9	16.5	18.0	19.5
	kW	2.56	2.56	2.57	2.57	2.57	2.58	2.58	2.58	2.60	2.60	2.61	2.61
	CMP	2.32	2.33	2.33	2.34	2.33	2.33	2.34	2.34	2.33	2.33	2.34	2.34
125	TCG	14.1	15.2	16.6	18.1	14.6	15.6	17.0	18.4	15.8	16.3	17.7	19.1
	SHG	14.1	12.7	10.8	8.87	14.6	13.3	11.3	9.15	15.8	14.9	12.5	9.85
	TC	13.8	14.9	16.3	17.8	14.3	15.2	16.6	18.1	15.3	15.8	17.3	18.7
	kW	2.86	2.87	2.87	2.88	2.87	2.88	2.88	2.89	2.90	2.91	2.92	2.93
	CMP	2.63	2.63	2.64	2.65	2.63	2.64	2.64	2.65	2.63	2.64	2.65	2.66

Rating condition.

LEGEND

BF — Bypass Factor
CMP — Compressor Power
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Total Power (Includes CMP)
SHG — Gross Sensible Capacity (1000 Btuh)
TC — Total Net Cooling Capacity (1000 Btuh)
TCG — Gross Cooling Capacity (1000 Btuh)

*Refer to Systems Index Table on page 21 for table number references. Many multi-split systems require the use of more than one cooling capacity table to determine system total capacity and power.

NOTES:
1. Direct interpolation is permissible. Do not extrapolate.
2. The SHG is based on 80 F edb temperature of air entering indoor coil.
   Below 80 F edb, subtract (corr factor x cfm) from SHG.
   Above 80 F edb, add (corr factor x cfm) to SHG.
   Correction Factor = 1.10 x (1 – BF) x (edb – 80).

PERFORMANCE DATA (cont)

COOLING CAPACITIES (cont)

TABLE NO. 9* — 538S024 (or 1 Circuit of 538S048 System) CONDENSING UNIT WITH ONE 619E018 HIGH WALL UNIT

TEMP (F) AIR ENTERING CONDENSER (Edb)		AIR ENTEIRNG EVAPORATOR — CFM/BF											
		360/0.20				414/0.22				480/0.25			
		Air Entering Evaporator — Ewb (F)											
		57	62	67	72	57	62	67	72	57	62	67	72
55	TCG	15.6	17.1	18.7	20.4	16.2	17.8	19.4	21.1	16.9	18.4	20.1	21.8
	SHG	14.4	12.9	11.3	9.72	15.4	13.7	11.9	10.1	16.4	14.6	12.6	10.5
	TC	15.5	16.9	18.6	20.3	16.1	17.6	19.2	21.0	16.7	18.3	19.9	21.7
	kW	1.32	1.31	1.30	1.30	1.32	1.31	1.31	1.30	1.33	1.32	1.31	1.30
	CMP	1.14	1.13	1.12	1.12	1.14	1.13	1.12	1.11	1.13	1.12	1.12	1.11
65	TCG	15.1	16.6	18.2	19.8	15.7	17.2	18.8	20.5	16.3	17.9	19.5	21.2
	SHG	14.2	12.6	11.1	9.46	15.1	13.4	11.6	9.83	16.1	14.3	12.3	10.3
	TC	15.0	16.5	18.0	19.7	15.6	17.1	18.7	20.4	16.2	17.7	19.3	21.0
	kW	1.46	1.45	1.45	1.44	1.46	1.46	1.45	1.44	1.47	1.46	1.45	1.45
	CMP	1.28	1.27	1.27	1.26	1.28	1.27	1.26	1.26	1.28	1.27	1.26	1.25
75	TCG	14.7	16.1	17.6	19.2	15.2	16.7	18.3	19.9	15.8	17.3	18.9	20.6
	SHG	13.9	12.4	10.8	9.20	14.8	13.1	11.4	9.57	15.7	14.0	12.0	9.99
	TC	14.5	16.0	17.5	19.1	15.1	16.6	18.1	19.7	15.7	17.1	18.7	20.4
	kW	1.62	1.61	1.61	1.60	1.62	1.62	1.61	1.61	1.63	1.62	1.61	1.61
	CMP	1.44	1.43	1.43	1.42	1.44	1.43	1.42	1.42	1.43	1.43	1.42	1.42
85	TCG	14.2	15.6	17.1	18.7	14.8	16.2	17.7	19.3	15.4	16.8	18.3	19.9
	SHG	13.6	12.1	10.5	8.95	14.4	12.8	11.1	9.30	15.3	13.7	11.7	9.70
	TC	14.1	15.5	17.0	18.6	14.6	16.0	17.6	19.1	15.2	16.6	18.1	19.7
	kW	1.80	1.79	1.79	1.78	1.80	1.79	1.79	1.79	1.81	1.80	1.79	1.79
	CMP	1.62	1.61	1.61	1.60	1.61	1.61	1.61	1.60	1.61	1.61	1.60	1.60
95	TCG	13.8	15.1	16.6	18.1	14.3	15.7	17.1	18.6	14.9	16.2	17.7	19.2
	SHG	13.3	11.8	10.3	8.68	14.1	12.6	10.8	9.03	14.9	13.4	11.4	9.42
	TC	13.6	15.0	16.4	17.9	14.1	15.5	17.0	18.5	14.7	16.0	17.5	19.0
	kW	2.00	2.00	1.99	1.99	2.00	2.00	2.00	1.99	2.01	2.00	2.00	2.00
	CMP	1.82	1.82	1.81	1.81	1.82	1.81	1.81	1.81	1.81	1.81	1.81	1.81
105	TCG	13.3	14.6	16.0	17.5	13.8	15.1	16.5	18.0	14.5	15.6	17.1	18.5
	SHG	13.0	11.6	10.0	8.42	13.8	12.3	10.5	8.77	14.5	13.1	11.1	9.14
	TC	13.2	14.5	15.9	17.4	13.7	15.0	16.4	17.9	14.3	15.5	16.9	18.3
	kW	2.22	2.22	2.22	2.22	2.23	2.23	2.23	2.23	2.24	2.23	2.23	2.23
	CMP	2.04	2.04	2.04	2.04	2.04	2.04	2.04	2.04	2.05	2.04	2.04	2.04
115	TCG	12.9	14.1	15.5	16.9	13.4	14.6	16.0	17.4	14.1	15.1	16.4	17.8
	SHG	12.7	11.3	9.76	8.17	13.4	12.0	10.3	8.49	14.1	12.9	10.9	8.86
	TC	12.8	14.0	15.4	16.8	13.2	14.5	15.8	17.2	13.9	14.9	16.3	17.7
	kW	2.48	2.48	2.48	2.49	2.48	2.49	2.49	2.49	2.50	2.49	2.50	2.50
	CMP	2.30	2.30	2.30	2.31	2.30	2.30	2.31	2.31	2.30	2.30	2.31	2.31
125	TCG	12.4	13.6	14.9	16.3	13.0	14.1	15.4	16.7	13.6	14.5	15.8	17.2
	SHG	12.4	11.0	9.49	7.91	13.0	11.8	10.0	8.23	13.6	12.6	10.6	8.59
	TC	12.3	13.5	14.8	16.1	12.8	13.9	15.2	16.6	13.4	14.4	15.7	17.0
	kW	2.77	2.78	2.78	2.79	2.78	2.79	2.79	2.80	2.79	2.79	2.80	2.80
	CMP	2.59	2.60	2.60	2.61	2.59	2.60	2.60	2.61	2.59	2.60	2.61	2.61

Rating condition.

*Refer to Systems Index Table on page 21 for table number references. Many multi-split systems require the use of more than one cooling capacity table to determine system total capacity and power.

LEGEND

BF — Bypass Factor
CMP — Compressor Power
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Total Power (Includes CMP)
SHG — Gross Sensible Capacity (1000 Btuh)
TC — Total Net Cooling Capacity (1000 Btuh)
TCG — Gross Cooling Capacity (1000 Btuh)

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The SHG is based on 80 F edb temperature of air entering indoor coil.
   Below 80 F edb, subtract (corr factor x cfm) from SHG.
   Above 80 F edb, add (corr factor x cfm) to SHG.
   Correction Factor = 1.10 x (1 – BF) x (edb – 80).

PERFORMANCE DATA (cont)

COOLING CAPACITIES (cont)

TABLE NO. 10* — 538S024 (or 1 Circuit of 538S048 System) CONDENSING UNIT WITH ONE 619E024 HIGH WALL UNIT

TEMP (F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — CFM/BF											
		456/0.04				502/0.04				550/0.05			
		Air Entering Evaporator — Ewb (F)											
		57	62	67	72	57	62	67	72	57	62	67	72
55	TCG	20.9	22.2	23.1	23.6	21.4	22.6	23.5	23.9	21.8	22.4	23.4	23.7
	SHG	20.3	17.6	14.5	11.5	21.2	18.3	15.0	11.7	21.8	18.6	15.1	11.7
	TC	20.7	22.0	22.9	23.4	21.1	22.4	23.3	23.6	21.5	22.2	23.2	23.5
	kW	1.34	1.34	1.35	1.35	1.34	1.35	1.36	1.36	1.35	1.35	1.36	1.36
	CMP	1.16	1.16	1.17	1.17	1.16	1.17	1.17	1.17	1.16	1.16	1.17	1.17
65	TCG	20.4	22.1	23.4	24.1	21.0	22.5	23.7	24.5	21.6	22.9	23.8	24.8
	SHG	20.1	17.7	14.8	11.7	21.0	18.5	15.2	12.0	21.6	19.3	15.6	12.2
	TC	20.2	21.9	23.2	23.9	20.8	22.3	23.5	24.2	21.4	22.6	23.6	24.5
	kW	1.48	1.49	1.50	1.50	1.49	1.50	1.50	1.51	1.50	1.51	1.51	1.52
	CMP	1.30	1.31	1.32	1.32	1.30	1.31	1.32	1.32	1.31	1.31	1.32	1.33
75	TCG	19.8	21.5	23.2	24.7	20.5	22.0	23.5	24.6	21.2	22.4	23.8	24.9
	SHG	19.7	17.5	14.8	12.0	20.5	18.4	15.2	12.1	21.2	19.2	15.8	12.4
	TC	19.6	21.3	23.0	24.5	20.3	21.8	23.2	24.4	21.0	22.2	23.6	24.7
	kW	1.64	1.66	1.66	1.68	1.66	1.67	1.67	1.68	1.67	1.67	1.68	1.69
	CMP	1.46	1.48	1.48	1.50	1.47	1.48	1.48	1.49	1.47	1.48	1.49	1.50
85	TCG	19.2	20.8	22.7	24.3	19.9	21.3	23.1	24.4	20.6	21.7	23.5	24.8
	SHG	19.2	17.1	14.6	11.8	19.9	18.1	15.1	12.0	20.6	19.0	15.7	12.4
	TC	19.0	20.6	22.5	24.1	19.7	21.1	22.9	24.2	20.4	21.5	23.2	24.5
	kW	1.82	1.84	1.85	1.87	1.84	1.85	1.86	1.87	1.85	1.87	1.87	1.88
	CMP	1.65	1.66	1.67	1.69	1.65	1.67	1.68	1.69	1.66	1.67	1.68	1.69
95	TCG	18.6	20.0	22.0	23.9	19.4	20.5	22.4	24.2	20.0	20.9	22.8	24.4
	SHG	18.6	16.8	14.3	11.7	19.4	17.7	14.9	12.0	20.0	18.6	15.6	12.3
	TC	18.4	19.8	21.8	23.7	19.1	20.3	22.2	24.0	19.8	20.7	22.6	24.1
	kW	2.03	2.05	2.07	2.09	2.05	2.06	2.08	2.10	2.06	2.07	2.09	2.10
	CMP	1.85	1.87	1.89	1.91	1.86	1.88	1.89	1.91	1.87	1.88	1.90	1.91
105	TCG	18.1	19.3	21.2	23.1	18.8	19.7	21.7	23.5	19.4	20.1	22.1	23.7
	SHG	18.1	16.4	14.0	11.4	18.8	17.3	14.6	11.7	19.4	18.2	15.3	12.0
	TC	17.9	19.1	21.0	22.9	18.5	19.5	21.5	23.3	19.1	19.9	21.9	23.5
	kW	2.26	2.28	2.31	2.33	2.28	2.30	2.33	2.34	2.30	2.31	2.34	2.35
	CMP	2.08	2.10	2.13	2.15	2.10	2.11	2.14	2.16	2.11	2.12	2.15	2.16
115	TCG	17.5	18.5	20.4	22.4	18.1	19.0	20.9	22.7	18.7	19.3	21.2	23.0
	SHG	17.5	16.0	13.6	11.1	18.1	16.9	14.3	11.4	18.7	17.8	14.9	11.8
	TC	17.3	18.3	20.2	22.2	17.9	18.7	20.6	22.5	18.5	19.1	21.0	22.8
	kW	2.53	2.55	2.59	2.61	2.55	2.56	2.60	2.62	2.57	2.58	2.62	2.63
	CMP	2.35	2.37	2.41	2.43	2.36	2.38	2.42	2.44	2.38	2.39	2.43	2.44
125	TCG	16.9	17.8	19.6	21.6	17.5	18.2	20.0	21.9	18.1	18.5	20.4	22.2
	SHG	16.9	15.7	13.3	10.8	17.5	16.5	13.9	11.2	18.1	17.4	14.6	11.5
	TC	16.7	17.6	19.4	21.4	17.3	17.9	19.8	21.7	17.9	18.3	20.1	22.0
	kW	2.83	2.85	2.90	2.93	2.85	2.87	2.91	2.94	2.87	2.88	2.93	2.95
	CMP	2.65	2.67	2.72	2.75	2.67	2.68	2.73	2.76	2.68	2.69	2.74	2.76

Rating condition.

*Refer to Systems Index Table on page 21 for table number references. Many multi-split systems require the use of more than one cooling capacity table to determine system total capacity and power.

LEGEND

BF — Bypass Factor
CMP — Compressor Power
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Total Power (Includes CMP)
SHG — Gross Sensible Capacity (1000 Btuh)
TC — Total Net Cooling Capacity (1000 Btuh)
TCG — Gross Cooling Capacity (1000 Btuh)

NOTES:
1. Direct interpolation is permissible. Do not extrapolate.
2. The SHG is based on 80 F edb temperature of air entering indoor coil.
   Below 80 F edb, subtract (corr factor x cfm) from SHG.
   Above 80 F edb, add (corr factor x cfm) to SHG.
   Correction Factor = 1.10 x (1 – BF) x (edb – 80).

PERFORMANCE DATA (cont)

COOLING CAPACITIES (cont)

TABLE NO. 11* — 538S024 (or 1 Circuit of 538S048 System) CONDENSING UNIT WITH ONE 619C024 CEILING-SUSPENDED UNIT

TEMP (F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — CFM/BF											
		400/0.03				500/0.03				600/0.04			
		Air Entering Evaporator — Ewb (F)											
		57	62	67	72	57	62	67	72	57	62	67	72
55	TCG	22.7	24.2	25.8	26.6	23.7	25.1	26.2	26.6	24.6	25.4	26.1	27.4
	SHG	21.3	18.5	15.8	12.7	23.1	19.8	16.4	12.9	24.5	20.6	16.7	13.4
	TC	22.3	23.8	25.5	26.2	23.3	24.6	25.7	26.1	24.1	24.8	25.6	26.8
	kW	1.41	1.42	1.44	1.45	1.44	1.45	1.47	1.47	1.47	1.47	1.48	1.50
	CMP	1.15	1.15	1.17	1.18	1.15	1.16	1.18	1.18	1.16	1.17	1.17	1.19
65	TCG	21.5	23.5	25.3	26.3	22.8	24.5	26.2	27.2	23.7	25.2	26.6	27.1
	SHG	20.4	18.2	15.5	12.6	22.5	19.6	16.5	13.2	23.7	20.9	17.2	13.3
	TC	21.1	23.2	24.9	25.9	22.3	24.0	25.8	26.8	23.2	24.7	26.1	26.6
	kW	1.53	1.54	1.56	1.57	1.56	1.57	1.59	1.61	1.58	1.60	1.62	1.62
	CMP	1.26	1.28	1.30	1.30	1.28	1.28	1.31	1.32	1.28	1.29	1.31	1.32
75	TCG	20.2	22.2	24.1	25.7	21.5	23.2	25.1	26.6	22.5	23.9	25.7	26.6
	SHG	19.4	17.3	14.9	12.3	21.3	18.8	16.0	12.9	22.5	20.2	16.8	13.1
	TC	19.9	21.8	23.8	25.3	21.0	22.8	24.7	26.2	22.0	23.4	25.2	26.1
	kW	1.65	1.67	1.70	1.72	1.68	1.70	1.73	1.75	1.71	1.74	1.76	1.77
	CMP	1.39	1.41	1.44	1.46	1.40	1.43	1.45	1.47	1.42	1.44	1.46	1.47
85	TCG	18.9	20.8	23.0	25.1	20.1	21.9	24.0	25.9	21.3	22.7	24.7	26.2
	SHG	18.4	16.4	14.3	11.9	20.1	18.1	15.4	12.6	21.3	19.4	16.3	12.9
	TC	18.6	20.5	22.6	24.7	19.7	21.5	23.6	25.5	20.8	22.2	24.2	25.7
	kW	1.76	1.80	1.84	1.87	1.80	1.84	1.87	1.90	1.84	1.87	1.89	1.92
	CMP	1.51	1.54	1.58	1.62	1.53	1.57	1.60	1.63	1.55	1.58	1.60	1.63
95	TCG	17.7	19.5	21.5	23.6	18.9	20.5	22.6	24.6	20.0	21.2	23.3	25.2
	SHG	17.4	15.5	13.5	11.3	18.9	17.1	14.6	12.0	20.0	18.4	15.6	12.5
	TC	17.4	19.1	21.2	23.3	18.5	20.1	22.2	24.2	19.5	20.7	22.8	24.7
	kW	1.90	1.94	1.99	2.03	1.95	1.98	2.03	2.07	1.99	2.01	2.07	2.09
	CMP	1.66	1.69	1.74	1.78	1.68	1.71	1.77	1.80	1.70	1.73	1.78	1.81
105	TCG	16.5	18.2	20.1	22.1	17.7	19.1	21.0	23.2	18.7	19.7	21.7	23.8
	SHG	16.5	14.7	12.7	10.6	17.7	16.2	13.8	11.4	18.7	17.5	14.8	11.9
	TC	16.2	17.8	19.7	21.8	17.4	18.7	20.6	22.8	18.3	19.3	21.2	23.3
	kW	2.06	2.10	2.15	2.21	2.11	2.14	2.20	2.26	2.15	2.17	2.23	2.29
	CMP	1.82	1.86	1.91	1.97	1.85	1.88	1.93	2.00	1.87	1.90	1.95	2.01
115	TCG	15.4	16.9	18.7	20.6	16.6	17.7	19.5	21.5	17.5	18.3	20.1	22.1
	SHG	15.4	13.8	11.9	9.94	16.6	15.3	13.0	10.6	17.5	16.5	13.9	11.2
	TC	15.1	16.6	18.4	20.3	16.3	17.3	19.2	21.2	17.1	17.8	19.7	21.7
	kW	2.24	2.28	2.34	2.40	2.30	2.33	2.38	2.45	2.34	2.36	2.42	2.50
	CMP	2.01	2.04	2.10	2.16	2.04	2.07	2.12	2.20	2.06	2.08	2.14	2.22
125	TCG	14.4	15.6	17.3	19.1	15.5	16.4	18.1	20.0	16.3	16.9	18.6	20.5
	SHG	14.4	13.0	11.2	9.28	15.5	14.4	12.2	9.95	16.3	15.6	13.1	10.5
	TC	14.1	15.3	17.0	18.8	15.1	16.0	17.8	19.6	15.9	16.5	18.2	20.1
	kW	2.44	2.48	2.54	2.61	2.50	2.53	2.58	2.66	2.54	2.56	2.62	2.70
	CMP	2.21	2.25	2.31	2.37	2.24	2.27	2.33	2.41	2.27	2.29	2.35	2.44

Rating condition.

*Refer to Systems Index Table on page 21 for table number references. Many multi-split systems require the use of more than one cooling capacity table to determine system total capacity and power.

LEGEND

BF — Bypass Factor
CMP — Compressor Power
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Total Power (Includes CMP)
SHG — Gross Sensible Capacity (1000 Btuh)
TC — Total Net Cooling Capacity (1000 Btuh)
TCG — Gross Cooling Capacity (1000 Btuh)

NOTES:
1. Direct interpolation is permissible. Do not extrapolate.
2. The SHG is based on 80 F edb temperature of air entering indoor coil.
   Below 80 F edb, subtract (corr factor x cfm) from SHG.
   Above 80 F edb, add (corr factor x cfm) to SHG.
   Correction Factor = 1.10 x (1 – BF) x (edb – 80).

PERFORMANCE DATA (cont)

COOLING CAPACITIES (cont)

TABLE NO. 12* — 538S024 (or 1 Circuit of 538S048 System) CONDENSING UNIT WITH ONE 619F036 IN-CEILING CASSETTE UNIT

TEMP (F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — CFM/BF											
		635/0.08				745/0.10				915/0.12			
		Air Entering Evaporator — Ewb (F)											
		57	62	67	72	57	62	67	72	57	62	67	72
55	TCG	26.7	28.5	30.1	31.7	28.0	29.2	30.9	32.1	29.4	29.9	31.8	33.0
	SHG	26.7	23.7	19.4	15.5	28.0	25.3	20.6	16.0	29.4	27.3	22.1	16.8
	TC	26.3	28.0	29.6	31.2	27.4	28.7	30.4	31.6	28.8	29.2	31.2	32.3
	kW	2.14	2.15	2.16	2.18	2.18	2.19	2.20	2.21	2.24	2.24	2.26	2.27
	CMP	1.71	1.72	1.73	1.75	1.72	1.73	1.74	1.75	1.73	1.73	1.75	1.76
65	TCG	25.2	26.7	29.0	30.4	26.5	27.5	29.7	31.1	27.9	28.4	30.3	31.9
	SHG	25.2	22.6	19.0	15.0	26.5	24.4	20.2	15.6	27.9	26.7	21.6	16.5
	TC	24.8	26.2	28.6	30.0	26.0	27.0	29.2	30.6	27.3	27.7	29.6	31.3
	kW	2.16	2.16	2.18	2.19	2.19	2.20	2.22	2.23	2.25	2.25	2.27	2.29
	CMP	1.76	1.77	1.79	1.80	1.77	1.78	1.80	1.81	1.78	1.78	1.80	1.82
75	TCG	23.5	24.8	27.1	28.7	24.8	25.6	27.8	29.4	26.2	26.5	28.4	30.3
	SHG	23.5	21.5	18.0	14.2	24.8	23.2	19.2	14.9	26.2	25.5	20.8	15.9
	TC	23.1	24.4	26.7	28.3	24.3	25.1	27.3	28.9	25.6	25.9	27.8	29.7
	kW	2.15	2.16	2.18	2.19	2.19	2.19	2.21	2.23	2.24	2.24	2.26	2.28
	CMP	1.79	1.80	1.82	1.83	1.80	1.81	1.83	1.84	1.81	1.82	1.83	1.85
85	TCG	21.9	23.0	25.1	27.0	23.1	23.7	25.8	27.8	24.5	24.7	26.6	28.6
	SHG	21.9	20.3	17.0	13.5	23.1	22.0	18.2	14.3	24.5	24.3	19.9	15.3
	TC	21.5	22.6	24.7	26.6	22.6	23.3	25.4	27.3	23.9	24.1	26.0	28.0
	kW	2.14	2.16	2.17	2.19	2.18	2.18	2.20	2.22	2.22	2.23	2.24	2.27
	CMP	1.82	1.83	1.85	1.87	1.84	1.84	1.86	1.88	1.84	1.85	1.86	1.89
95	TCG	20.2	21.1	23.2	25.1	21.4	21.8	23.8	25.8	22.7	22.8	24.5	26.6
	SHG	20.2	19.0	16.0	12.7	21.4	20.7	17.1	13.4	22.7	22.7	18.9	14.5
	TC	19.9	20.7	22.8	24.7	20.9	21.3	23.4	25.3	22.2	22.2	24.0	26.0
	kW	2.10	2.11	2.13	2.15	2.13	2.14	2.16	2.18	2.18	2.18	2.20	2.23
	CMP	1.82	1.83	1.85	1.87	1.83	1.84	1.85	1.88	1.85	1.85	1.86	1.89
105	TCG	18.6	19.3	21.3	23.2	19.7	19.9	21.9	23.8	20.9	20.9	22.5	24.5
	SHG	18.6	17.7	14.9	11.9	19.7	19.3	16.1	12.5	20.9	20.9	17.7	13.6
	TC	18.3	18.9	20.9	22.9	19.3	19.5	21.4	23.3	20.4	20.4	22.0	24.0
	kW	2.03	2.04	2.07	2.09	2.06	2.07	2.09	2.11	2.11	2.11	2.12	2.15
	CMP	1.78	1.79	1.82	1.84	1.80	1.80	1.83	1.84	1.81	1.81	1.83	1.86
115	TCG	17.1	17.6	19.4	21.3	18.1	18.2	19.9	21.8	19.2	19.2	20.5	22.4
	SHG	17.1	16.5	13.8	11.0	18.1	17.9	15.0	11.7	19.2	19.2	16.6	12.7
	TC	16.8	17.3	19.1	21.0	17.7	17.8	19.5	21.4	18.7	18.7	20.0	21.9
	kW	1.89	1.90	1.93	1.96	1.93	1.93	1.95	1.98	1.97	1.97	1.99	2.01
	CMP	1.68	1.69	1.72	1.75	1.70	1.70	1.73	1.75	1.72	1.72	1.74	1.76
125	TCG	15.6	15.9	17.5	19.4	16.5	16.5	18.0	19.8	17.5	17.5	18.5	20.4
	SHG	15.6	15.3	12.8	10.1	16.5	16.5	13.8	10.8	17.5	17.5	15.4	11.8
	TC	15.3	15.6	17.2	19.0	16.1	16.1	17.6	19.4	17.0	17.0	18.1	19.9
	kW	1.76	1.77	1.80	1.83	1.79	1.79	1.82	1.84	1.83	1.83	1.85	1.87
	CMP	1.59	1.59	1.62	1.65	1.60	1.60	1.63	1.66	1.62	1.62	1.64	1.67

Rating condition.

*Refer to Systems Index Table on page 21 for table number references. Many multi-split systems require the use of more than one cooling capacity table to determine system total capacity and power.

LEGEND

BF — Bypass Factor
CMP — Compressor Power
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Total Power (Includes CMP)
SHG — Gross Sensible Capacity (1000 Btuh)
TC — Total Net Cooling Capacity (1000 Btuh)
TCG — Gross Cooling Capacity (1000 Btuh)

NOTES:
1. Direct interpolation is permissible. Do not extrapolate.
2. The SHG is based on 80 F edb temperature of air entering indoor coil.
   Below 80 F edb, subtract (corr factor x cfm) from SHG.
   Above 80 F edb, add (corr factor x cfm) to SHG.
   Correction Factor = 1.10 x (1 – BF) x (edb – 80).

ELECTRICAL DATA

CONDENSING UNITS

UNIT 538S	V-PH-Hz	OPERATING VOLTAGE MINIMUM*	OPERATING VOLTAGE MAXIMUM*	COMPRESSOR			FAN	POWER SUPPLY	
				Quantity	RLA (Ea)	LRA (Ea)	FLA	MCA	Max Fuse or HACR-Type Circuit Breaker Amps
024	208/230-1-60	187	254	1	12.9	62.5	0.70	16.8	25
048				2			1.45	30.5	40

LEGEND

FLA — Full Load Amps
HACR — Heating, Air Conditioning, Refrigeration
LRA — Locked Rotor Amps
MCA — Minimum Circuit Amps per NEC Section 430-24
NEC — National Electrical Code
RLA — Rated Load Amps (Compressor)

*Permissible limits of the voltage range at which unit will operate satisfactorily.

NOTES:
1. The 538S units contain a 24-v transformer; additional transformers are not required.
2. All motors and compressors contain internal overload protection.
3. In compliance with NEC requirements for multimotor and combination load equipment (refer to NEC Articles 430 and 440), the overcurrent protective device for the unit shall be fuse or HACR breaker.
4. Motor RLA values are established in accordance with UL (Underwriters' Laboratories) Standard 1995.

FAN COIL UNITS

UNIT	V-PH-Hz	OPERATING VOLTAGE MINIMUM*	OPERATING VOLTAGE MAXIMUM*	FAN (EA)		POWER			MIN WIRE SIZE
				FLA	MOTOR POWER	MCA	MOCP	FLA	
619C024†	208/230-1-60	187	253	0.50	1/16 hp	0.63	15	0.50	14
619E018	208/230-1-60	187	253	0.53	44 w	0.66	15	0.53	14
619E024	208/230-1-60	187	253	0.53	49 w	0.66	15	0.53	14
619F024	208/230-1-60	187	253	0.44	1/16 hp	0.55	15	0.44	14
619F036	208/230-1-60	187	253	0.44	1/16 hp	1.10	15	0.88	14

LEGEND

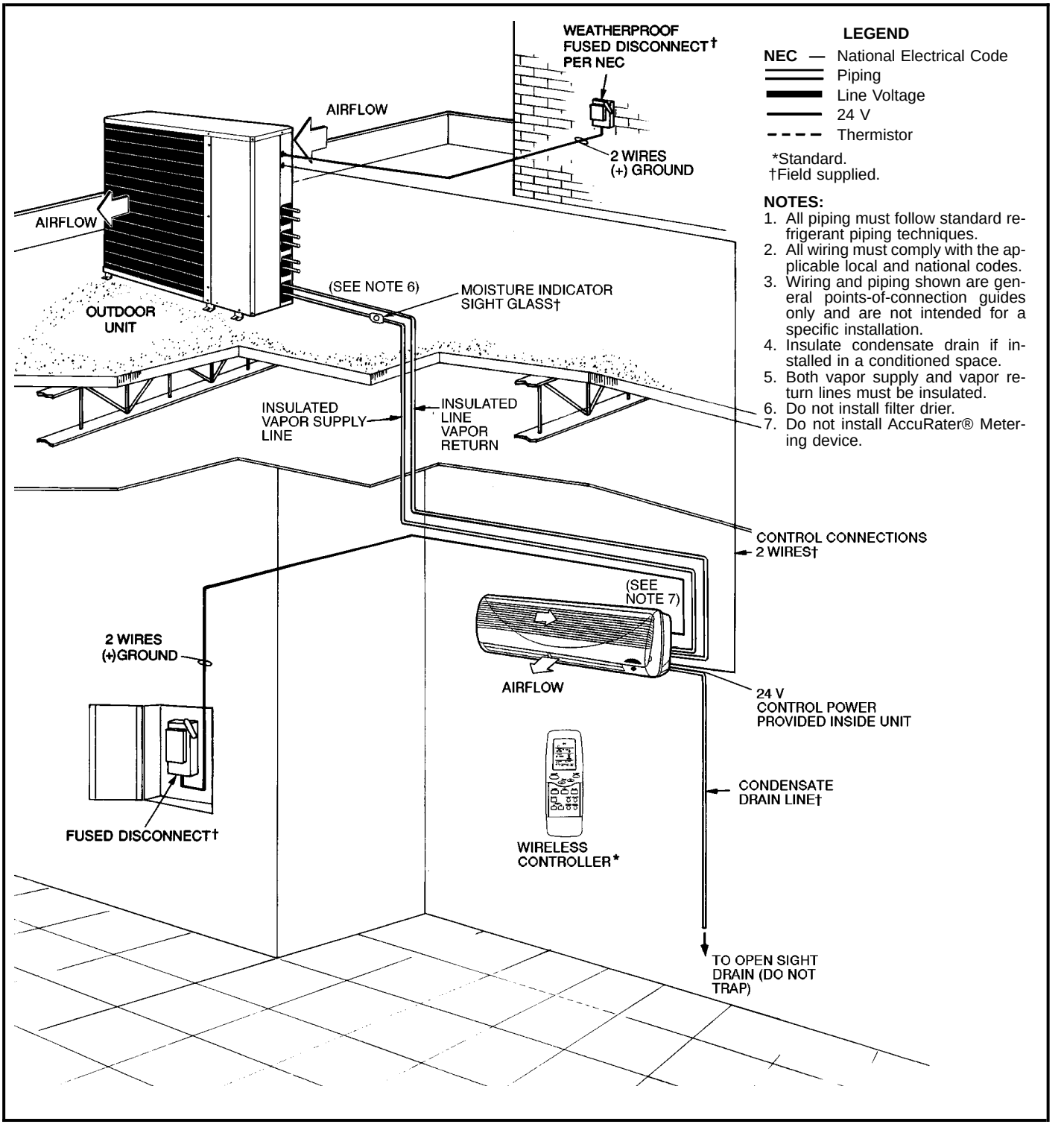
FLA — Full Load Amps
HACR — Heating, Air Conditioning, Refrigeration
MCA — Minimum Circuit Amps
MOCP — Maximum Overcurrent Protection Amps (Fuse or HACR Circuit Breaker)

*Permissible limits of the voltage range at which units will operate satisfactorily.

†Electrical data is identical for both the 18,000 Btuh field reconfigured and the full 24,000 Btuh units.

NOTE: Refer to Heat Pump product data literature for electrical data for heat pump fan coils matched with cooling-only condensing units.

TYPICAL PIPING AND WIRING — HIGH WALL SYSTEMS



LEGEND

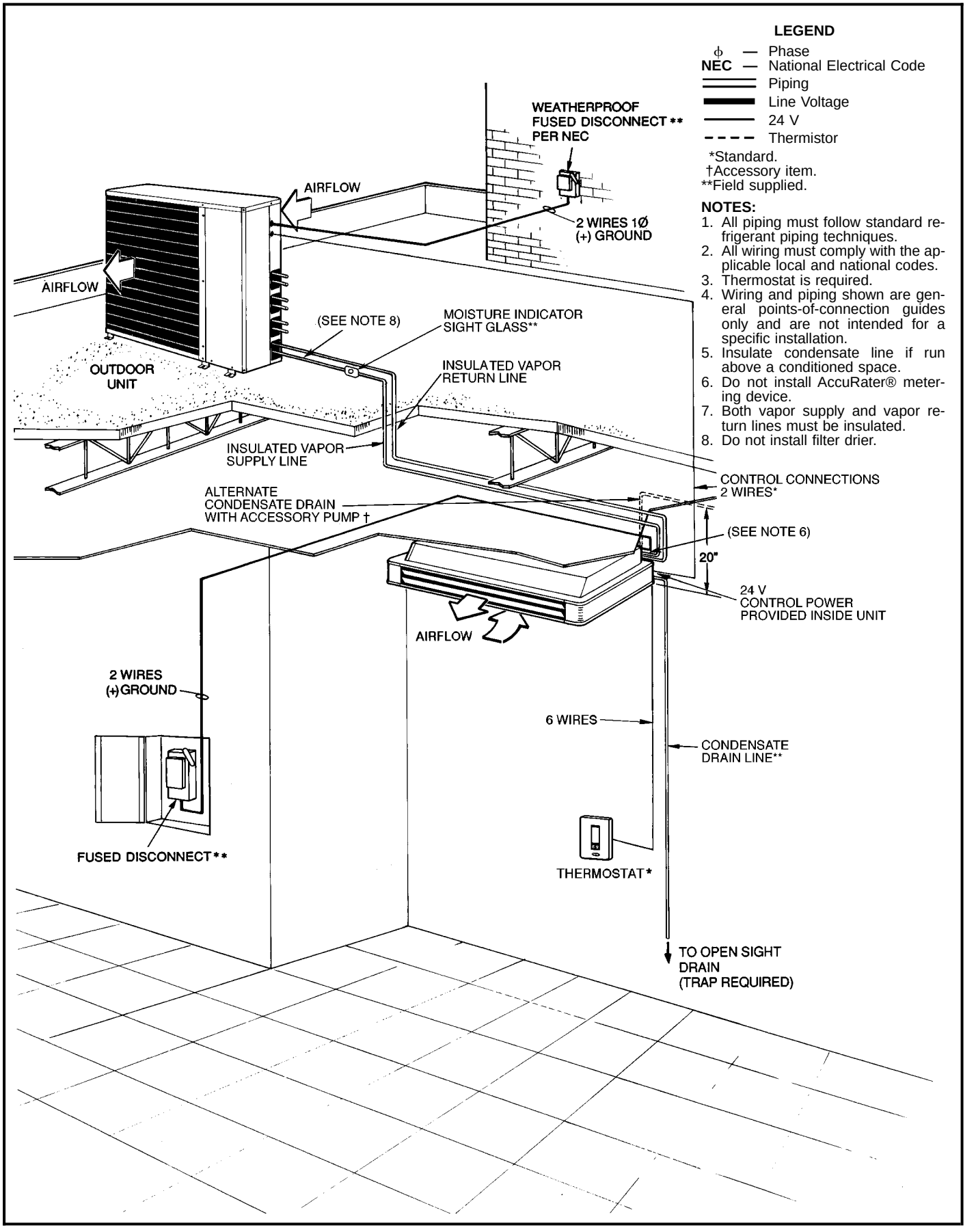
NEC — National Electrical Code
Piping
Line Voltage
24 V
Thermistor

*Standard.
†Field supplied.

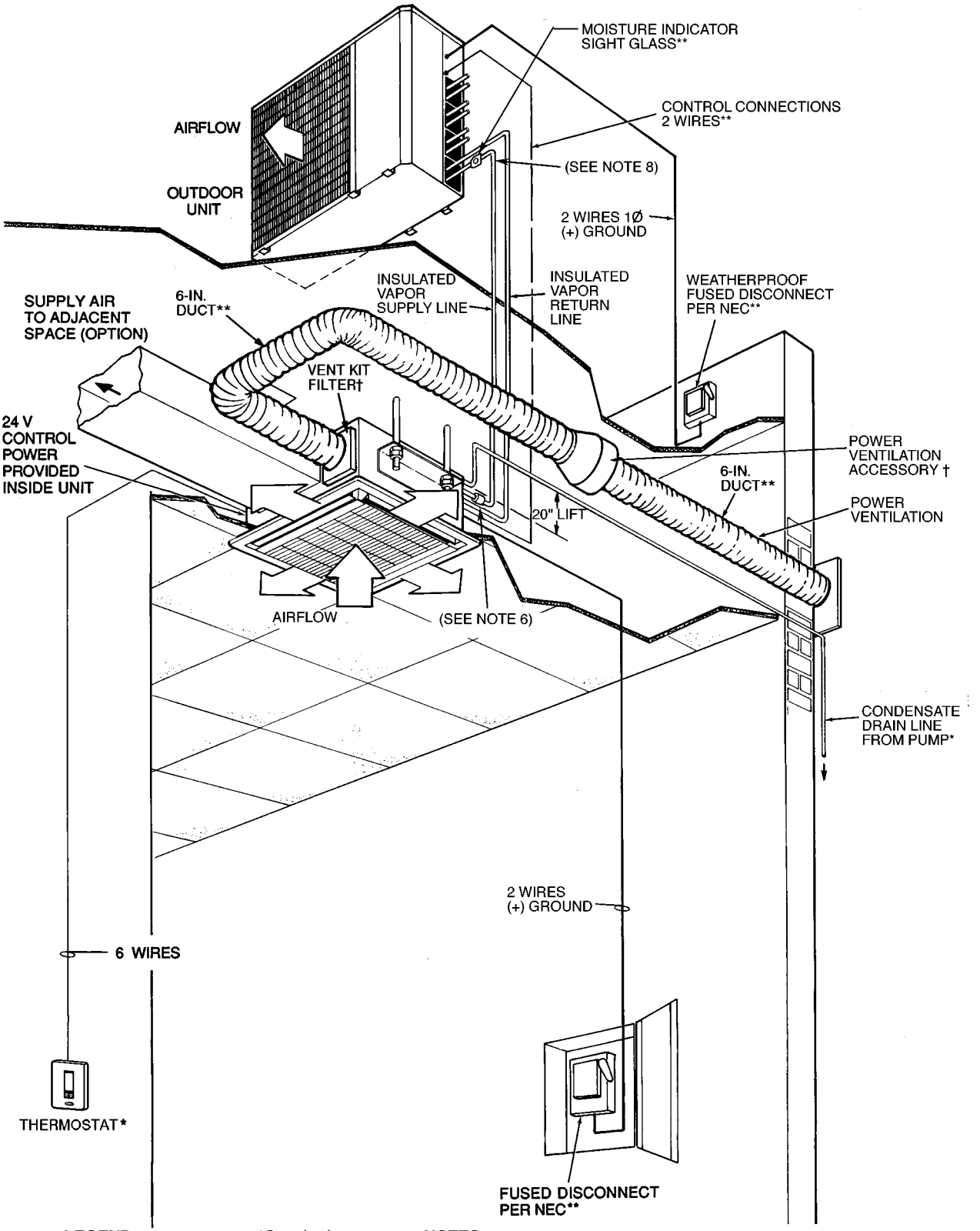
NOTES:

1. All piping must follow standard refrigerant piping techniques.
2. All wiring must comply with the applicable local and national codes.
3. Wiring and piping shown are general points-of-connection guides only and are not intended for a specific installation.
4. Insulate condensate drain if installed in a conditioned space.
5. Both vapor supply and vapor return lines must be insulated.
6. Do not install filter drier.
7. Do not install AccuRater® Metering device.

TYPICAL PIPING AND WIRING — CEILING-SUSPENDED SYSTEMS


LEGEND
ϕ — Phase
NEC — National Electrical Code
Piping
Line Voltage
24 V
Thermistor
*Standard.
†Accessory item.
**Field supplied.
NOTES:
1. All piping must follow standard refrigerant piping techniques.
2. All wiring must comply with the applicable local and national codes.
3. Thermostat is required.
4. Wiring and piping shown are general points-of-connection guides only and are not intended for a specific installation.
5. Insulate condensate line if run above a conditioned space.
6. Do not install AccuRater® metering device.
7. Both vapor supply and vapor return lines must be insulated.
8. Do not install filter drier.
WEATHERPROOF FUSED DISCONNECT ** PER NEC
AIRFLOW
2 WIRES 1Ø (+) GROUND
AIRFLOW
(SEE NOTE 8)
MOISTURE INDICATOR SIGHT GLASS**
OUTDOOR UNIT
INSULATED VAPOR RETURN LINE
INSULATED VAPOR SUPPLY LINE
CONTROL CONNECTIONS 2 WIRES*
ALTERNATE CONDENSATE DRAIN WITH ACCESSORY PUMP †
(SEE NOTE 6)
20"
24 V CONTROL POWER PROVIDED INSIDE UNIT
AIRFLOW
2 WIRES (+) GROUND
6 WIRES
CONDENSATE DRAIN LINE**
FUSED DISCONNECT**
THERMOSTAT*
TO OPEN SIGHT DRAIN (TRAP REQUIRED)

TYPICAL PIPING AND WIRING — IN-CEILING CASSETTE SYSTEMS



LEGEND

ϕ — Phase
NEC — National Electrical Code
Piping
Line Voltage
24 V

*Standard.
†Accessory item.
**Field supplied.

NOTES:

1. All piping must follow standard refrigerant piping techniques.
2. All wiring must comply with the applicable local and national codes.
3. Thermostat is required.
4. Wiring and piping shown are general points-of-connection guides only and are not intended for a specific installation.
5. Insulate condensate line if run above a conditioned space.
6. Do not install AccuRater® metering device.
7. Both vapor supply and vapor return lines must be insulated.
8. Do not install filter drier.

APPLICATION DATA

1. **Unit selection**
   Select equipment so that capacity either matches or is slightly less than anticipated peak load. This provides better humidity control, fewer unit cycles, and less part-load operation.

   For units used in spaces with high sensible loads, base equipment selection on unit sensible load, not on total anticipated load. Adjust for anticipated room wet bulb temperature to avoid undersizing equipment.

   When selecting equipment that has outdoor air introduced into the unit, determine the mix conditions of room air and outdoor air at design conditions. The cooling capacity tables in this literature are based on 80 F edb. Adjust for actual entering dry-bulb and wet-bulb conditions of the required outdoor air to select the proper equipment.

2. **Unit combinations and coil mixed matches**
   The 538S units are the only units approved for use with the 619C, E and F multi-split systems. The 538S units can also be used with other fan coil units.

   Mixed matches of indoor-fan coil capacity are not recommended except as listed in Systems Index Table on page 21.

   Heat pump fan coils can be used with cooling-only condensing units to provide electric heat capability.

3. **Unit mounting (outdoor)**
   a. **Unit leveling —** For reliable operation, units should be level in all planes.
   b. **Clearance —** Adequate clearance must be provided for airflow. See dimensional drawings for proper clearances. The condensing units are designed for free-blow application. Air inlets and outlets should not be restricted. Outdoor fan external static pressure available is less than 0.1 in. wg.
   c. **Unit location —** Cooling units can be stacked 2 high. Units can be wall mounted, pad mounted at ground level, roof mounted, or mounted on a deck or patio. Be sure water drainage from roof will not drain directly onto the unit.

   NOTE: If stacking units, field-fabricated and installed hardware is required. Contact your local representative for drawings and details.

   If 538S condensing units are being mounted near a wall, the condenser air should discharge toward the wall. This position provides inherent coil protection and the best possible sound and airflow performance.

4. **Unit mounting (indoor)**
   a. **Unit leveling —** For reliable operation, units should be level in all planes. The 619C ceiling-suspended fan coils may have a slight pitch, but only toward the drain connection.
   b. **Clearance —** Provide adequate clearance for airflow. The unit return and discharge should not be obstructed by furniture, curtains, or anything which may cause unit short cycling or air recirculation. See base unit dimensional drawings on pages 15-19 for required clearances.
   c. **Unit location —** When selecting unit location, select a location which provides the best air circulation for the room.
      1) **HIGH WALL UNITS —** These units should be positioned as high as possible on the wall for best air circulation. Allow adequate clearances above the unit for servicing (removing unit covers). If possible, place the unit in the middle (horizontally) of the wall selected. Select an outside wall (if available) to make piping easier, and place the unit so it faces the normal location of room occupants.
      2) **CEILING-SUSPENDED UNITS —** These units should be mounted near the ceiling and against a wall. The unit should be centered (horizontally) on the wall for best performance. Locating the unit on an outside wall will make piping easier, but units can also be mounted away from a wall if desired. (If the unit is mounted away from a wall, the rear panel of the unit may need a field-supplied trim strip for improved appearance.) For quietest operation, locate the fan coil return over an area which is not normally occupied. Do not block air discharge for a minimum of 15 ft to prevent dumping of cold air and drafts.
      3) **IN-CEILING CASSETTE UNITS —** These units should be mounted in the ceiling, preferably near the center of the room. If the unit must be mounted near a wall, close the air discharge on the blocked side(s). (Up to 2 sides may be blocked.) Locate the control box away from the blocked side(s).

5. **Mounting template**
   The 619C fan coil units are furnished with a mounting template to mark the location of the mounting brackets, wiring, and refrigeration hole locations. In addition, the 619C units indicate the location of ventilation-air connections.

6. **Support**
   Adequate support must be provided to support the weight of all fan coils. Refer to the Physical Data section on page 11 for fan coil weights, and the base unit dimensional drawings on pages 15-19 for the location of mounting brackets.

7. **System operating conditions**
   Operating limits:

OUTDOOR CONDENSING UNITS

TEMPERATURE CONDITION	538S
Maximum Cooling Ambient (F)	125
Minimum Cooling Ambient (F)	–20
Minimum Cooling Return-Air Temperature (F)	55
Maximum Cooling Return-Air Temperature (F)	95
Maximum Compressor Discharge Temperature (F)	275
Minimum Discharge Superheat (F)	60

FAN COIL UNITS

TEMPERATURE CONDITION	619C	619E	619F
Maximum Room Temperature (F)	84	84	95
Minimum Room Temperature (F)	64	64	55
Maximum Return Air (F)			
Dry-Bulb	85	85	85
Wet-Bulb	72	72	72
Maximum Saturated Suction Temperature (F)	55	55	55
Minimum Saturated Suction Temperature (F)	27	27	27

8. **Low-ambient operation**
   Units can operate in cooling mode down to 55 F under all conditions.

   Units intended for operation in cooling mode below 40 F should also be equipped with accessory crankcase heater, accessory winter start kit, and field fabricated and installed wind baffle.
   a. **Winter start (accessory) —** Winter start bypasses the low-pressure switch for 3 minutes. Use when cooling operation in outdoor ambient temperatures below 40 F is anticipated.
   b. **Crankcase heater (accessory) —** Use when cooling operation at outdoor ambient temperatures below 40 F is anticipated.

9. **Drain connections**
   Install drains to meet local sanitation codes. If adequate gravity drainage cannot be provided, unit should be equipped with accessory condensate pump. High wall fan coil unit accessory condensate pumps have a 3 to 25 ft lift, and all other fan coil units have a lift capability of 20 in. above the condensate pan level.

   See base unit dimensional drawings on pages 15-19 for drain locations and sizes.

   NOTE: High-wall fan coil units have internal condensate traps. All other fan coil units require a field-supplied external condensate trap.

   Drain connections can be routed through alternate locations on most fan coils. See base unit dimensional drawings on pages 15-19 for possible alternate locations.

   Electric heat — The under-ceiling cooling systems can provide electric heat by using the heat pump version of the fan coil unit. Also, any unit with a condensate pump must have a jumper wire installed between terminals O and Y on the fan coil unit low-voltage terminal strip. Refer to the heat pump Product Data literature for appropriate fan coil electrical data.

10. **Refrigerant lines**
    General refrigerant line sizing:
    a. All charges, line sizing, and capacities are based on runs of 25 ft. For runs over 25 ft, consult 538S Units section on this page for proper line sizing and charge.

       NOTE: For runs less than 25 ft, some of the charge may need to be removed to obtain the correct system superheat. The minimum line length should be 8 ft.

MAXIMUM LINE LENGTHS

UNIT	MAXIMUM EQUIVALENT FT	MAXIMUM LIFT — FAN COIL BELOW CONDENSING UNIT	MAXIMUM LIFT — FAN COIL ABOVE CONDENSING UNIT
538S	50	30*	30*

*Maximum distance permitted is 30 ft from lowest system component to highest system component.

   b. Refrigerant lines should not be buried in the ground. If it is necessary to bury the lines, not more than 36 in. should be buried. Provide a minimum 6-in. vertical rise to the service valves to prevent refrigerant migration.
   c. Both liquid vapor lines must be insulated. Use a minimum of ½-in. thick insulation. Closed-cell insulation is recommended in all long-line (over 25 ft) applications.
   d. Special consideration should be given to isolating interconnecting tubing from the building structure. Isolate the tubing so that vibration or noise is not transmitted into the structure.

538S Units:
   a. The 538S units are shipped with a full charge of R-22 refrigerant. Charge is based on 25 ft of line.
   b. Filter driers are provided in the unit.
   c. Two-phase supply lines on all 538S units should be ⅜ in. only. DO NOT resize supply lines for additional length.
   d. Vapor return line size is ⅝ in. for all applications.

11. **Controls**
    The 619E fan coil units are controlled by wireless remote controls. The 619C and 619F fan coil units must be hardwired only.

    Wired 24-v Controllers (619C, 619F)
    a. A 24-v thermostat is supplied for operation of all in-ceiling and cassette systems.
    b. Controller can only operate one unit, and a controller is required for each unit.
    c. The control must be located in the space being conditioned.

Wireless remote controllers (619E)

a. A wireless remote controllers is supplied for system operation of all high wall units.
b. Each battery-operated wireless remote controller (infrared) may be used to control more than one unit.
c. The wireless remote controller has a range of 20 ft minimum.
d. The unit is equipped with an emergency switch which allows operation if the remote controller malfunctions or is misplaced.
e. Because the controller uses infrared communication, all of the following must be true for the controller to work properly:
   1) The power to the fan coil unit must be on.
   2) The batteries in the controller must be changed.
   3) The controller must be within range of and pointed directly at the unit.
   4) The unit's 3-position switch must be set in the remote position.

12. **Group control**
The 619C and 619F fan coil units may be group controlled from a single timeclock or energy management system by interrupting the 24-v power to the control board. See system wiring books for details.

13. **Thermistor**
The 538S unit has one thermistor that monitors entering-air temperature at the condensing unit. The 619E unit has 2 different thermistors mounted at the indoor unit. The indoor unit thermistors are not monitored at the 538S outdoor unit.

14. **Wiring**
Use only copper wires from the disconnect to the unit terminal block. Aluminum and copper-clad aluminum wires are not acceptable.

All multi-split systems provide 24-v power for the outdoor unit in the fan coil unit.

All systems should have a separate disconnect for each indoor and outdoor unit.

15. **Air throw**
Refer to Air Throw Data table below for system air throw capabilities.

AIR THROW DATA

FAN COIL TYPE	SIZE	HIGH SPEED AIRFLOW (CFM)	APPROXIMATE AIR THROW (FT)
High Wall	018	550	32
	024	570	35
Ceiling Suspended	024*	500	25
	024	500	30
In-Ceiling Cassette	024	525	20
	036	915	20

*Field reconfigured for 18,000 Btuh.

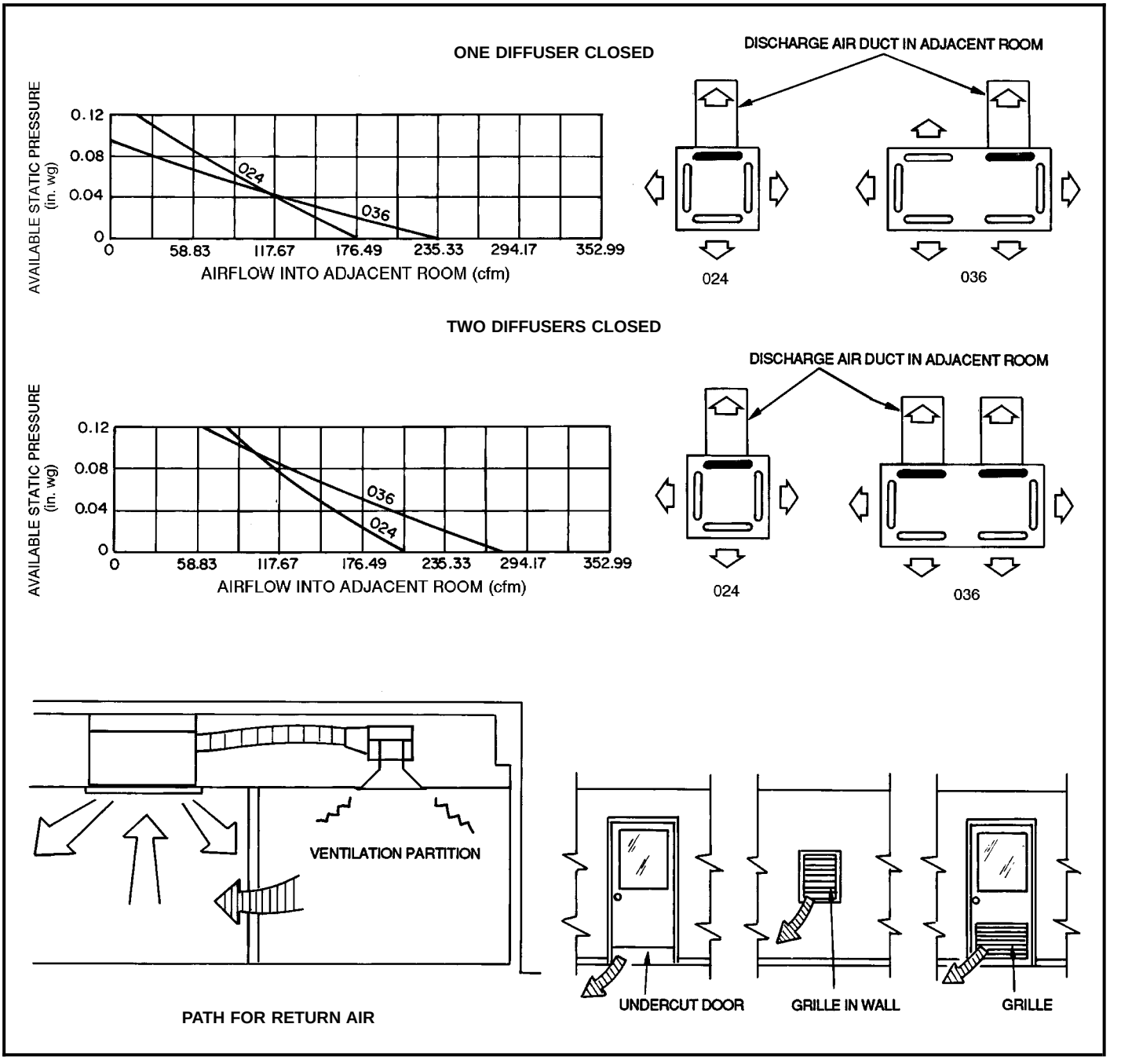
NOTE: Air throw is with unit mounted with typical clearances in a 10-ft high room.

16. **Fresh air/ducting**
a. The 619C ceiling-suspended fan coil units may bring in up to 30% fresh air. The percentage of air allowable is calculated based on the unit high speed airflow. Air quantities above this level may exceed compressor maximum saturated suction temperatures. A power ventilation kit is available to overcome ventilation duct static. See Power Ventilation Kit Available Static table below.
b. The 619F in-ceiling cassette fan coil units may bring in up to 10% fresh air. This 10% maximum should not be exceeded. A power ventilation kit is available to overcome ventilation duct static. See Power Ventilation Kit Available Static table below.
c. The 619F in-ceiling cassette fan coil units may have an extension duct installed. See Static Capability and Design Considerations figures on page 42.

POWER VENTILATION KIT AVAILABLE STATIC PRESSURE

FAN HP	WATTS	RPM	VOLTAGE	CFM AT STATIC PRESSURE (in. wg)								DUCT DIA. (in.)	SONES
				0	⅛	¼	⅜	½	¾	1	1½		
1/15	150	2700	208/230	370	335	318	298	256	219	189	112	6	4.0

SONE — A subjective unit of loudness, equal to the loudness of a pure tone having a frequency of 1,000 Hz at 40 decibels above the listener's threshold of audibility. This is for comparative purposes only.



619F In-Ceiling Cassette Systems — Static Capability and Design Considerations When Using Alternate Supply Duct Feature

17. Sound data

CONDENSING UNIT SOUND RATINGS

UNIT 538S	SOUND RATING (Decibels)	FREE FIELD dBA*
024	68	57.9
048	72	61.9

LEGEND

dBA — Decibels on the A Scale

*Free field is a rating with no reflective surfaces near the unit. Sound pressure data is measured at 1 m from the unit. See Sound Power Data Octave Bands table for more information.

NOTE: Units rated in accordance with ARI (Air Conditioning & Refrigeration Institute) Standard 270.

SOUND POWER DATA OCTAVE BANDS — A WEIGHTED

UNIT	FAN SPEED	OCTAVE BAND DATA (dBA)						
		125	250	500	1000	2000	4000	8000
538S024	H	48.6	55.8	59.6	61.8	59.3	55.1	44.2
538S048	H	58.5	63.2	64.3	65.3	64.2	61.3	50.7
619E018	H	40.8	49.1	53.7	55.2	49.1	41.3	32.3
	M	38.0	46.7	50.6	51.7	44.9	35.8	31.6
	L	37.3	44.4	47.5	48.6	40.4	32.0	31.6
619E024	H	44.9	51.9	59.1	59.5	54.8	48.0	36.7
	M	43.7	50.5	57.2	57.0	51.8	44.4	33.6
	L	40.7	47.7	55.1	54.7	49.0	40.5	32.2
619C024*	H	38.1	50.0	52.6	54.7	49.0	41.5	31.8
	M	36.4	47.7	50.7	52.3	46.3	37.4	29.5
	L	35.1	46.2	49.3	50.5	43.5	34.3	29.0
619C024	H	39.2	50.9	53.4	56.0	50.4	43.1	32.8
	M	38.1	50.0	52.6	54.7	49.0	41.5	31.8
	L	36.4	47.7	50.7	52.3	46.3	37.4	29.5
619F024	H	32.1	45.0	51.2	54.1	46.5	45.0	36.5
	M	42.0	44.1	48.0	47.5	42.2	37.3	36.8
	L	40.9	43.0	46.9	46.4	41.1	36.2	35.7
619F036	H	45.0	45.8	50.9	51.8	47.4	38.8	32.9
	M	35.5	40.2	46.1	45.2	39.0	29.9	28.7
	L	31.2	37.8	40.3	37.0	26.5	24.5	27.3

LEGEND

ARI — Air Conditioning & Refrigeration Institute
dBA — Decibels on the A scale
H — High
L — Low
M — Medium

*Field reconfigured for 18,000 Btuh.

NOTES:
1. Outdoor sound levels are tone corrected values taken in accordance with ARI Sound Standard 270.
2. Indoor sound levels are tone corrected values taken in accordance with ARI Sound Standard 350.

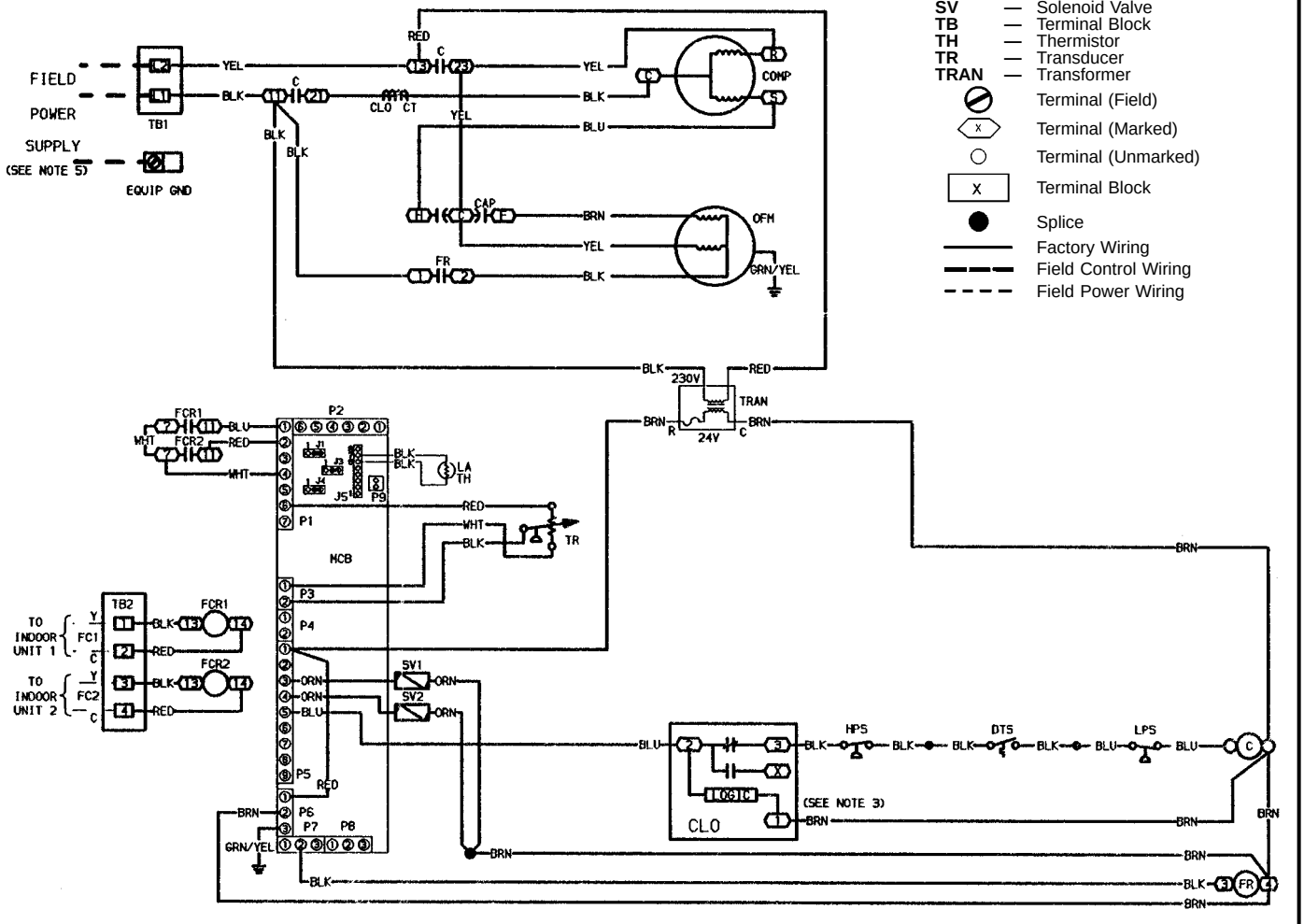
TYPICAL WIRING SCHEMATIC — 538S024 CONDENSING UNIT (024 Shown)

NOTES:
1. Fan motor is thermally protected.
2. Wire in accordance with National Electrical Code (NEC) and local codes. Replace any original wires with 90° C wire or its equivalent.
3. The CLO locks out the COMP to prevent short cycling on COMP overloads and safety devices. Before replacing CLO check these devices.
4. If indoor section has a transformer with a grounded secondary, connect the grounded side to "C" on the low voltage board.
5. Use minimum 60° C wire for field power wiring.
6. The multi-split control has a 2-minute internal time delay on compressor operation. The pins on plug P9 may be shorted to speed up this time delay for servicing.
7. Jumper J3 must be moved to pins 1-2 when only one fan coil will be used for compressor Circuit 1. Jumper J4 must be moved to pins 1-2 when only one fan coil will be used for compressor Circuit 2.

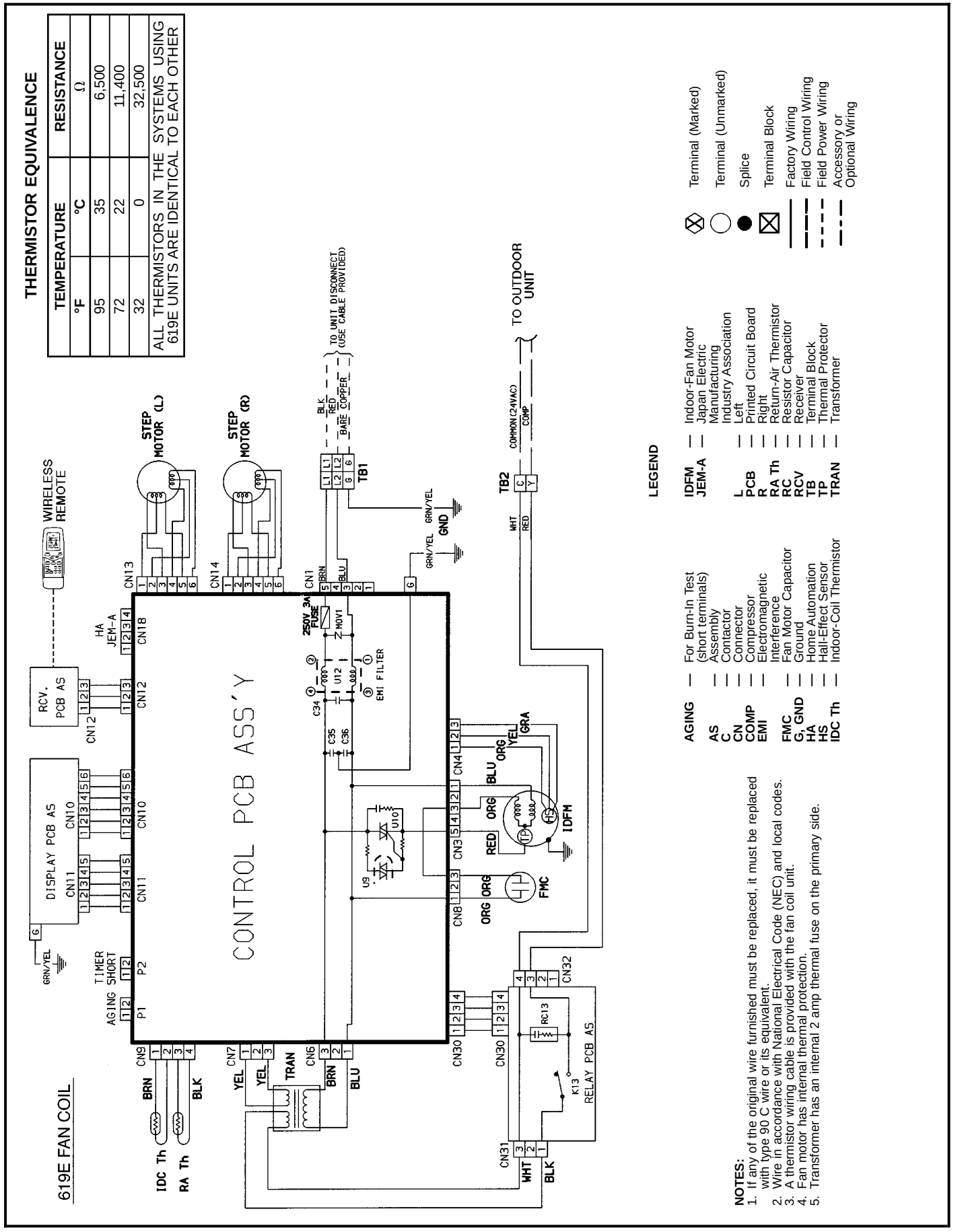
LEGEND

C	—	Contactor, Compressor
CAP	—	Capacitor
CLO	—	Compressor Lockout
COMP	—	Compressor Motor
CT	—	Current Transformer
DTS	—	Discharge Temperature Switch
EQUIP	—	Equipment
FC	—	Fan Coil
FCR	—	Fan Coil Relay
FR	—	Fan Relay
GND	—	Ground
HPS	—	High-Pressure Switch
LA	—	Low Ambient
LPS	—	Low-Pressure Switch
MCB	—	Multi-Split Control Board
OFM	—	Outdoor-Fan Motor
SV	—	Solenoid Valve
TB	—	Terminal Block
TH	—	Thermistor
TR	—	Transducer
TRAN	—	Transformer

Terminal (Field)
Terminal (Marked)
Terminal (Unmarked)
Terminal Block
Splice
Factory Wiring
Field Control Wiring
Field Power Wiring



TYPICAL WIRING SCHEMATIC — 619E HIGH WALL UNITS



THERMISTOR EQUIVALENCE

TEMPERATURE		RESISTANCE
°F	°C	Ω
95	35	6,500
72	22	11,400
32	0	32,500

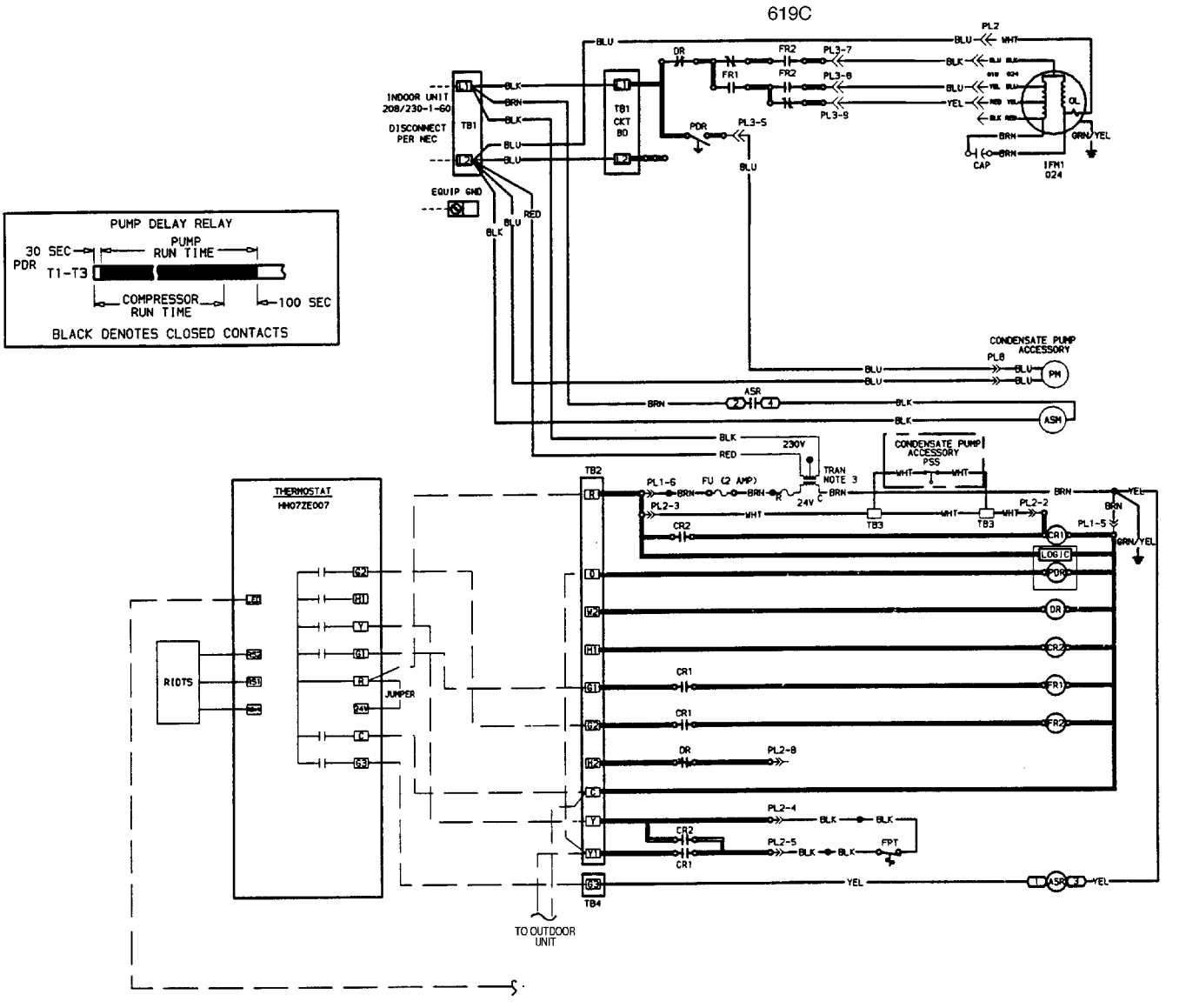
ALL THERMISTORS IN THE SYSTEMS USING 619E UNITS ARE IDENTICAL TO EACH OTHER

LEGEND

AGING	— For Burn-In Test (short terminals)	IDFM	— Indoor-Fan Motor		Terminal (Marked)
AS	— Assembly	JEM-A	— Japan Electric Manufacturing Industry Association		Terminal (Unmarked)
C	— Contactor				Splice
CN	— Connector	L	— Left		
COMP	— Compressor	PCB	— Printed Circuit Board		Terminal Block
EMI	— Electromagnetic Interference	R	— Right		Factory Wiring
FMC	— Fan Motor Capacitor	RA Th	— Return-Air Thermistor		Field Control Wiring
G, GND	— Ground	RC	— Resistor Capacitor		Field Power Wiring
HA	— Home Automation	RCV	— Receiver		Accessory or Optional Wiring
HS	— Hall-Effect Sensor	TB	— Terminal Block		
IDC Th	— Indoor-Coil Thermistor	TP	— Thermal Protector		
		TRAN	— Transformer		

NOTES:
1. If any of the original wire furnished must be replaced, it must be replaced with type 90 C wire or its equivalent.
2. Wire in accordance with National Electrical Code (NEC) and local codes.
3. A thermistor wiring cable is provided with the fan coil unit.
4. Fan motor has internal thermal protection.
5. Transformer has an internal 2 amp thermal fuse on the primary side.

TYPICAL WIRING SCHEMATIC — 619C CEILING SUSPENDED UNITS

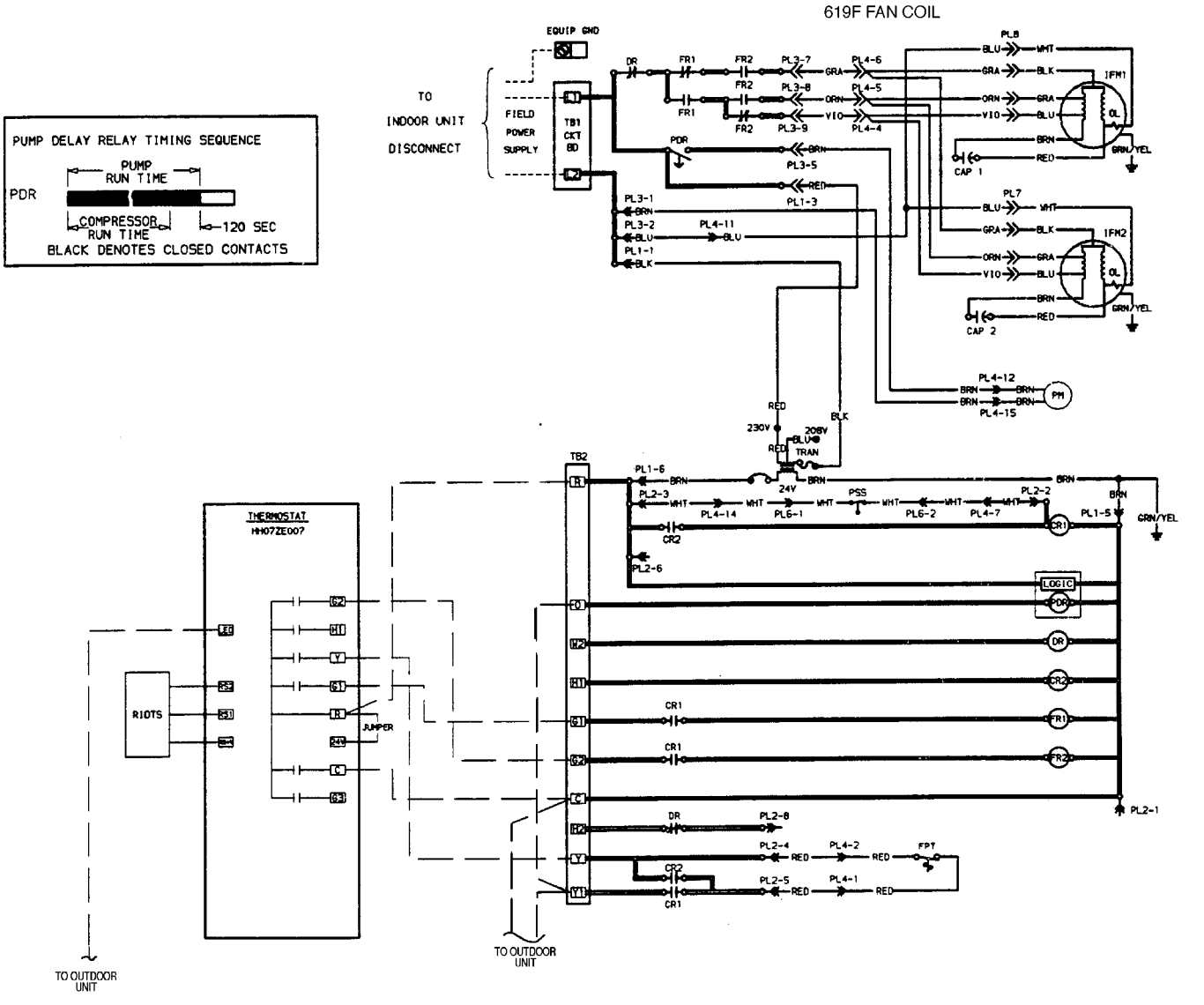


LEGEND

ASM	— Air Sweep Motor	**FR**	— Fan Relay	**TB**	— Terminal Block		Terminal Block
ASR	— Air Sweep Relay	**FU**	— Fuse	**TRAN**	— Transformer		Factory Wiring
C	— Contactor	**IFM**	— Indoor Fan Motor		Terminal (Marked)		Field Control Wiring
CAP	— Capacitor	**OL**	— Overload		Terminal (Unmarked)		Field Power Wiring
CR	— Control Relay	**PDR**	— Pump Delay Relay		Splice		Printed Circuit Board
DR	— Defrost Relay	**PL**	— Plug				Accessory or Optional Wiring
EQUIP GND	— Equipment Ground	**PM**	— Pump Motor				
FPT	— Freeze Protection Thermostat	**PSS**	— Pump Shut-Off Switch				
		RIDTS	— Remote Indoor Temperature Sensor				

NOTES:
1. If any of the original wire furnished must be replaced, it must be replaced with type 90° C wire or its equivalent.
2. Wire in accordance with National Electrical Code (NEC) and local codes.
3. Transformer is thermally protected and will reset automatically.
4. IFM(S) has internal thermal protection.

TYPICAL WIRING SCHEMATIC — 619F IN-CEILING CASSETTE UNITS



LEGEND

CAP	— Capacitor	**IFM**	— Indoor Fan Motor	**TB**	— Terminal Block		Factory Wiring
CR	— Control Relay	**OL**	— Overload	**TRAN**	— Transformer		Field Control Wiring
DR	— Defrost Relay	**PDR**	— Pump Delay Relay		Terminal (Unmarked)		Field Power Wiring
EQUIP GND	— Equipment Ground	**PL**	— Plug		Splice		Printed Circuit Board
FPT	— Freeze Protection Thermostat	**PM**	— Pump Motor		Terminal Block		
FR	— Fan Relay	**PSS**	— Pump Shutoff Switch				
		RIDTS	— Remote Indoor Temperature Sensor				

NOTES:
1. If any of the original wire furnished must be replaced, it must be replaced with type 90° C wire or its equivalent.
2. Wire in accordance with National Electrical Code (NEC) and local codes.
3. Transformer is thermally protected and will reset automatically.
4. IFM(S) has internal thermal protection.

UNIT OPERATION

NOTE: AUTO fan mode is used as the unit operation example for ALL fan coil units in this section. Contact your local dealer for operation information in other fan modes.

Fan coil units — Each fan coil unit has a self-contained control system that determines the set point for fan coil operation, fan mode operation, and heating mode operation (if provided). The fan coil units are equipped with either a wired or wireless remote controller set. Set points and fan modes may be determined separately for each fan coil unit.

Each fan coil unit may call for cooling operation independently. On a call for cooling operation by a single fan coil unit, a 24-v signal is sent to the 538S outdoor unit and energizes a control relay. The indoor blower starts according to the normal fan coil unit sequence of operation. The control relay (in the outdoor unit) initiates operation of a cooling cycle for the respective indoor unit refrigerant circuit; including opening a liquid line solenoid valve in the outdoor unit.

As the set point at each fan coil is satisfied, its individual 24-v signal to the 538S unit stops, and the respective solenoid valve for each fan coil unit closes. The indoor fan cycles off. The 619E fan coil units then begin room sampling operation after a 3-minute off period (during sampling, the fan motor runs at low speed for 1 minute to sample the demand in the space; then cycles off until the next sampling period if no demand is found).

538S outdoor condensing unit — The outdoor unit is equipped with a control that monitors the indoor fan coil cooling request. The control turns on solenoid valves for the appropriate indoor fan coil unit system. The control also combines the cooling requests to control up to 2 compressors.

The 538S control provides a 2-minute compressor time-delay circuit which disables the compressor for 2 minutes at unit start-up. The time delay device timers are initialized when the unit is powered up (for the first 2 minutes).

The 538S unit control includes an integral head pressure control function. This function maintains a minimum head pressure by cycling the outdoor-fan motor in response to inputs from the thermistor (for outdoor ambient temperature) and the transducers (for system discharge pressures in each compressor circuit).

The head pressure for the compressor(s) is monitored to control the outdoor fan output. The control reads an outdoor temperature thermistor to determine if the head pressure should be used to control the fan output.

Operation — The 538S unit receives a 24-v control signal from each fan coil unit as each fan coil unit initiates a demand for cooling. The 24-v signal energizes a control relay in the 538S unit (one relay per fan coil unit). The refrigerant flow to each fan coil unit is controlled through a solenoid valve (one valve per fan coil unit). The solenoid valve(s) will not open until compressor operation is initiated by the controller.

The microprocessor control in the 538S unit includes a 2-minute, anti-short cycle, time-delay function. This function provides a minimum off delay between compressor run stages (2 minutes each from the end of the last on period to the beginning of the next on period). If more than 2 minutes have passed since the end of the last on period, the compressor is ready to restart with initiation of demand from any fan coil unit on its circuit.

Increased Demand for Cooling

NOTE: There are 2 separate compressor circuits in the 538S048 units (circuit A and circuit B). Each circuit operates independently, and will operate as follows (as will the single-circuit 024 units) upon receiving the first 24-v cooling demand signal from a fan coil unit:

1. After the 2-minute time-delay function is satisfied, the appropriate compressor starts.
2. The solenoid valve connected to the fan coil sending the demand signal is energized (at the 538S units).
3. The outdoor fan starts, and its operation is controlled by the microprocessor as described in 538S Microprocessor Control of Outdoor Fan section below.

When a second fan coil unit signals a demand for cooling, its associated solenoid valve is energized immediately, allowing refrigerant to flow to both fan coil units simultaneously.

Decreased Demand for Cooling — When a fan coil unit's demand for cooling ends, the 24-v signal to the 538S unit stops, and the appropriate solenoid valve closes. If the other fan coil unit on this circuit still has a demand, the appropriate compressor continues to run as long as necessary for the second fan coil unit.

When the second fan coil unit's demand for cooling ends, its solenoid valve closes, and the appropriate compressor stops. The compressor will not start for at least 2 minutes after the end of this cycle due to the time-delay function.

On size 024 units, when the compressor stops, the outdoor fan also stops. On size 048 units, outdoor fan operation may continue under control of the 538S microprocessor if the other refrigerant circuit is still operating. The outdoor fan only stops when both compressors are off. Refer to 538S Microprocessor Control of Outdoor Fan section below for more details.

538S microprocessor control of outdoor fan — The microprocessor control has a built-in head pressure control system that cycles the outdoor-fan motor to maintain a selected discharge pressure. The microprocessor senses outdoor ambient temperature using a thermistor and refrigerant pressure using a pressure transducer mounted on the compressor circuit discharge line. The 538S024 units have one transducer, and the 048 units have two.

The factory set points for the head pressure control operation are 55 F for outdoor ambient temperature and 250 psig for discharge pressure.

When the outdoor ambient temperature is above the outdoor ambient set point and both fan coils on a compressor circuit are calling for cooling operation, the outdoor fan runs at full speed whenever compressor operation is permitted. When only one fan coil is calling for cooling, fan cycling is permitted at all ambients. Fan motor is then cycled on and off to maintain set point discharge pressure.

When the outdoor ambient temperature is below the specified set point, the fan motor is cycled on and off to maintain a compressor discharge pressure at the specified pressure set point. On 538S048 units with 2 compressors running, the compressor with the lower head pressure controls the fan operation. If only one compressor is running, that compressor controls the fan operation.

If the discharge pressure on either circuit exceeds 370 psig, the outdoor-fan motor runs continuously, and the fan cycling function is bypassed until the discharge pressure decreases to 365 psig.

Units can be field configured to select head pressure control at 35 F outdoor ambient and/or 200 psig discharge pressure.

Status indicator lights — The 538S control board is equipped with LED indicators to aid in evaluating the status of the control system, including:

- time delay function status
- fan coil unit demand status
- head pressure control status
- current unit malfunctions

Also see System Status Red and Green LEDs and Fault Codes table below.

Unit malfunction — Each compressor circuit is equipped with a high-pressure switch (HPS), a low-pressure switch (LPS), and a discharge temperature switch (DTS). These safety devices are located in a Cycle-LOC™ device circuit that prevents compressor operation if any of these safety devices is activated. The lockout can be reset by turning the main power to the 538S unit off, then on again.

Compressor overcurrent protection is achieved by an internal linebreak overload, which automatically resets when the motor temperature cools to a satisfactory level. Manual reset of Cycle-LOC circuit may also be required.

Pressure transducers and the outdoor ambient thermistor are monitored by the 538S controller. If a pressure transducer is found to be out of range, the LEDs flash a code for this fault, but the control continues to cycle the outdoor fan according to input from the other transducer. If only one transducer is active and is determined to be out of range, the head pressure control is bypassed and the fan runs continuously. If the thermistor is found to be out of range, the control allows fan cycling per transducer input, and the LEDs flash a code for this failure. See System Status Red and Green LEDs and Fault Codes table below for diagnostic codes.

SYSTEM STATUS RED AND GREEN LEDs AND FAULT CODES

GREEN LED		RED LED		UNIT STATUS
Number of Flashes On	Number of Flashes Off	Number of Flashes On	Number of Flashes Off	
1	1	—	Always	System Ready
		1	1	Low Head Pressure, Circuit 1
		2	2	High Head Pressure, Circuit 1
		3	3	Low Head Pressure, Circuit 2
2	2	1	1	High Head Pressure, Circuit 2
		2	2	Low Outdoor Ambient Temperature, Outdoor Thermistor
		3	3	High Outdoor Ambient Temperature, Outdoor Thermistor
3	3	1	1	Hardware Error
		2	2	Time Guard® Device Active, Circuit 1
		3	3	Time Guard Device Active, Circuit 2

LED — Light-Emitting Diode

COMMERCIAL AIR-COOLED CONDENSING UNITS

HVAC GUIDE SPECIFICATIONS

SIZE RANGE: 2 AND 4 TONS, COOLING CAPACITY
MODEL NUMBER: 538S

PART 1 — GENERAL

1.01 SYSTEM DESCRIPTION

A. Outdoor-mounted, air-cooled, multi-split system outdoor section condensing unit suitable for on-the-ground, roof-top, wall hung, balcony, patio, or under-deck installation, or units may be stacked. Unit shall consist of a hermetic compressor(s), an air-cooled coil, propeller-type blow-thru condenser fans, full refrigerant charge, and control box. Unit shall discharge air horizontally as shown on the contract drawings. Units shall function as the outdoor component of an air-to-air cooling system. Each compressor circuit shall include a service valve set for connection of 2 indoor fan coil units.

B. Units shall be used in a refrigeration circuit matched to a cooling fan coil(s).

1.02 QUALITY ASSURANCE

A. Systems shall be rated and certified in accordance with ARI Standards 210/240 and 270. Units shall be listed in the ARI directory as a matched set.

B. Unit construction shall comply with ANSI/ASHRAE 15, latest revision, and with the NEC.

C. Units shall be constructed in accordance with UL standards and shall carry the UL listing label. Units shall have CSA approval.

D. Units shall be listed in the CEC directory.

E. Unit cabinet shall be capable of withstanding Federal Test Standard No. 141 (method 6061) 500-hour salt spray test.

F. Air-cooled condenser coils shall be leak tested at 350 psig air pressure with the coil submerged in water.

1.03 DELIVERY, STORAGE, AND HANDLING

Units shall be shipped in one piece and shall be stored and handled per unit manufacturer's recommendations.

1.04 WARRANTY (For Inclusion By Specifying Engineer).

PART 2 — PRODUCTS

2.01 EQUIPMENT

A. General:

Factory assembled, single piece, air-cooled condensing outdoor unit. Contained within the unit enclosure shall be all factory wiring, piping, controls, compressor(s), full charge of R-22 refrigerant, and special features required prior to field start-up.

B. Unit Cabinet:

1. Unit cabinet shall be constructed of galvanized steel, bonderized and coated with a baked-enamel finish.
2. Unit access panels shall be removable with minimal screws and shall provide full access to the compressor, fan, and control components.
3. Compressor compartment shall be isolated and have an acoustic lining to assure quiet operation.

C. Fans:

1. Condenser fans shall be direct-drive propeller type, shall discharge air horizontally, and shall blow air through the condenser coil.
2. Condenser-fan motors shall be totally-enclosed, single-phase motors with class B insulation and permanently-lubricated sleeve bearings. Motor shall be protected by internal thermal overload protection.
3. Shaft shall have inherent corrosion resistance.
4. Fan blades shall be corrosion resistant and shall be statically and dynamically balanced.
5. Condenser fan openings shall be equipped with PVC-coated protection grille over fan and coil.

D. Compressor(s):

1. Compressor(s) shall be fully hermetic scroll type (1 on 024 units; 2 on 048 units).
2. Compressor shall be equipped with oil system, operating oil charge, and motor. Internal overloads shall protect the compressor from overtemperature and overcurrent. Compressors shall also have high discharge gas temperature protection.
3. Motor shall be NEMA rated class F, suitable for operation in a refrigerant atmosphere.
4. Compressor assembly shall be installed on rubber vibration isolators.
5. Compressors shall be single-phase.

E. Condenser Coil:

Coil shall be constructed of aluminum fins mechanically bonded to internally-enhanced, seamless copper tubes which are cleaned, dehydrated, and sealed.

F. Refrigeration Components:

Refrigerant circuit components shall include brass external vapor supply line service valve(s), vapor return line service valve(s) with service gage connection port, service gage port connections on compressor suction and discharge lines with Schrader-type fittings with brass caps, filter drier(s), pressure relief, liquid line solenoid valves, thermostatic expansion valves, and a full charge of refrigerant.

G. Controls and Safeties:

Operating controls and safeties shall be factory selected, assembled, and tested. The minimum control function shall include:

1. Controls:
   a. Time delay restart to prevent compressor reverse rotation.
   b. Automatic restart on power failure.
   c. Safety lockout if any condensing unit safety is open.
   d. A time delay control sequence through the fan coil board on 619E fan coil units.
   e. High- and low-pressure switches.
   f. Automatic condenser-fan motor protection.

2. Safeties:
   a. High condensing temperature protection (when matched with 619E fan coils).
   b. System diagnostics (when used with 619E fan coils).
   c. Compressor motor current and temperature overload protection.
   d. High pressure relief.
   e. Condenser fan failure protection.

H. Electrical Requirements:
1. Unit shall operate on single-phase, 60 cycle power at 208/230 v as specified on contract drawings.
2. Unit electrical power shall be a single point connection.
3. Unit control voltage to the indoor fan coil shall be 24 v.
4. All power and control wiring shall be installed per NEC and all local building codes.
5. Unit shall have low-voltage terminal block connections.

I. Special Features (Field Installed):

Certain features are not applicable when the features designated by * are specified. For assistance in amending the specifications, contact your local representative.

* 1. Winter Start Control:

Field-installed winter start control shall permit start-up for cooling operation under low-load conditions and at low-ambient temperatures by bypassing the low-pressure switch for a 3-minute delay period.

NOTE: Winter start control shall be required when unit is intended to operate in cooling at outdoor ambient temperature below 40 F.

2. Crankcase Heater:

Field-installed crankcase heater shall be a clamp-on compressor oil sump heater. Heater shall be used in all applications where operation in cooling below 40 F outdoor ambient temperature is anticipated.

COMMERCIAL HIGH WALL FAN COIL UNITS

HVAC GUIDE SPECIFICATIONS

SIZE RANGE: 1½ AND 2 TONS COOLING CAPACITY
MODEL NUMBER: 619E

PART 1 — GENERAL

1.01 SYSTEM DESCRIPTION

Indoor, wall-mounted, direct-expansion fan coil to be matched with the commercial condensing units.

1.02 QUALITY ASSURANCE

Unit shall be rated per ARI Standards 210/240 and listed in the ARI directory as a matched system.

1.03 DELIVERY, STORAGE, AND HANDLING

Units shall be stored and handled per unit manufacturer's recommendations.

1.04 WARRANTY (For Inclusion By Specifying Engineer).

PART 2 — PRODUCTS

2.01 EQUIPMENT

A. General:

Indoor, direct-expansion, wall-mounted fan coil. Unit shall be complete with cooling/heating (heat pump systems only) coil, fan, fan motor, piping connectors, electrical controls, microprocessor control system, and integral temperature sensing. Unit shall be furnished with integral wall-mounting bracket and mounting hardware.

B. Unit Cabinet:

Cabinet discharge and inlet grilles shall be attractively styled, high-impact polystyrene. Cabinet shall be fully insulated for improved thermal and acoustic performance.

C. Fans:

Fan shall be tangential direct-drive blower type with air intake at the upper front face of the unit and discharge at the bottom front. Automatic, motor-driven vertical air sweep shall be provided standard.

Air sweep operation shall be user selectable. Horizontal direction may be manually adjusted (using remote controller) and vertical air sweep may be manually set.

D. Coil:

Coil shall be copper tube with aluminum fins and galvanized steel tube sheets. Fins shall be bonded to the tubes by mechanical expansion. A drip pan under the coil shall have a drain connection for hose attachment to remove condensate. Condensate pan shall have internal trap and auxiliary drip pan under coil header.

NOTE: For refrigerant control, systems with the high wall units use the piston refrigerant metering device in the *indoor* unit.

E. Motors:

Motors shall be open drip-proof, permanently lubricated ball bearing with inherent overload protection. Fan motors shall be 3-speed.

F. Controls:

Controls shall consist of a microprocessor-based control system which shall control space temperature, determine optimum fan speed, and run self diagnostics. The temperature control range shall be from 64 F to 84 F. The unit shall have the following functions as a minimum:

1. An automatic restart after power failure at the same operating conditions as at failure.
2. A timer function to provide a minimum 24-hour timer cycle for system Auto. Start/Stop.
3. Temperature-sensing controls shall sense return-air temperature. Indoor-air high discharge temperature shutdown shall be provided.
4. Indoor coil freeze protection.
5. Wireless infrared remote control to enter set points and operating conditions.
6. Auto Stop features shall have integral setback control.
7. Automatic airsweep control to provide on or off activation of airsweep louvers.
8. Dehumidification mode shall provide increased latent removal capability by modulating fan speed and set point temperature.
9. Fan only operation shall provide room air circulation when no cooling is required.
10. Diagnostics shall provide continuous checks of unit operation and warn of possible malfunctions. Error messages shall be displayed at the unit and at the remote controller.
11. Fan speed control shall be user-selectable: high, medium, low, or microprocessor automatic operation during all operating modes
12. A time delay shall prevent compressor restart in less than 3 minutes.

G. Filters:

Unit shall have filter track with factory-supplied cleanable filters.

H. Electrical Requirements:

Unit shall operate on 208-v or 230-v, 60 Hz power supply as specified on the equipment schedule. Power and control connections shall have terminal block connections.

I. Operating Characteristics:

1. The unit shall be matched with an outdoor unit. The combination of the outdoor unit and the indoor-fan coil unit shall have a total net cooling capacity of _____ Btuh or greater at conditions of _____ fan speed and entering-air temperature at the evaporator coil of _____ F dry bulb and _____ F wet bulb. Outdoor ambient temperature of air entering the condenser of _____ F.
2. The 619E system shall have a minimum listed SEER (seasonal energy efficiency ratio) of _____ at ARI conditions.
3. Outdoor unit shall be rated at ____ Decibels or less at ARI conditions.

J. Refrigerant Lines:

All units shall have flare connections and a 90-degree suction elbow shall be provided for rear connection.

K. Special Features (Field Installed):

1. Condensate Pump:

The condensate pump shall remove condensate from the drain pan when gravity drainage cannot be used. Pump shall be designed for quiet operation. Pump shall consist of two parts: an internal reservoir/sensor assembly, and a remote sound-shielded pump assembly. The lift capability of the condensate pump shall be 3 to 25 feet. A level sensor on the condensate pan shall stop cooling operation if the level in the condensate pan is unacceptable.

2. Charcoal Filter Kit:

Kit shall include active charcoal filter(s) and required collectors and/or frames. Filters shall aid in removing volatile organic compounds and micro-particles from the air in the conditioned space.

COMMERCIAL CEILING-SUSPENDED FAN COILS

HVAC GUIDE SPECIFICATIONS

SIZE RANGE: 1½ AND 2 TONS COOLING CAPACITY
MODEL NUMBER: 619C

PART 1 — GENERAL

1.01 SYSTEM DESCRIPTION

Indoor, under-ceiling mounted, direct-expansion fan coil to be matched with the 538S commercial condensing unit.

1.02 QUALITY ASSURANCE

Units shall be rated (when matched with appropriate outdoor unit) per ARI Standard 210/240. Units shall be certified by UL and CSA.

1.03 DELIVERY, STORAGE, AND HANDLING

Units shall be stored and handled per manufacturer's recommendations.

1.04 WARRANTY (For Inclusion By Specifying Engineer).

PART 2 — PRODUCTS

2.01 EQUIPMENT

A. General:

Indoor, direct-expansion, ceiling-suspended fan coil. Fan coil shall be shipped complete with cooling coil, fan, fan motor, piping connectors, electrical controls, solid-state electromechanical control system, and ceiling mounting brackets.

B. Unit Cabinet:

Cabinet shall be zinc-coated bonderized steel finished with a baked enamel paint. Inlet grilles shall be attractively styled, high-impact polystyrene. Matching mounting brackets shall be provided.

C. Fans:

Fans shall be centrifugal blower type with air intake in the bottom rear of the unit and discharge in the front. Automatic motor-driven vertical air sweep shall be provided.

D. Coils:

Coils shall be copper tube with aluminum fins and galvanized steel tube sheets. Fins will be bonded to the tubes by mechanical expansion. A drip pan under the coil shall have a drain connection for attachment of piping to remove condensate.

E. Motors:

Motors shall be permanently lubricated with inherent overload protection. Fan motor shall be 3-speed.

F. Controls:

Controls shall consist of a solid-state electromechanical control system which shall control space temperature and determine optimum fan speed. The temperature control range shall be from 64 F to 84 F. The unit shall have the following functions as a minimum:

1. An automatic restart after power failure at the same operating conditions as at failure.
2. Non-programmable thermostat to provide cooling and heating set points and day/night setback modes.
3. Wired control to enter set points and operating conditions.
4. Filter status indication after 250 hours of indoor fan operation.
5. Automatic airsweep control to provide on or off activation of airsweep louvers.
6. Cooling mode to provide modulating fan speed based on difference between temperature set point and space temperature.
7. Fan only operation to provide room air circulation when no cooling is required.
8. A 50-ft indoor to outdoor control connection cable shall be provided with the fan coil unit.
9. Fan speed control shall be user-selectable: high, medium, low, or automatic operation during all operating modes.
10. A time delay shall prevent compressor restart in less than 2 or 4 minutes (adjustable).

G. Filters:

Unit shall have filter track with factory-supplied cleanable filters.

H. Electrical Requirements:

Unit shall operate on a 208-v or 230-v, 60 Hz power supply as specified on the equipment schedule.

I. Operating Characteristics:

1. The unit shall be matched with an outdoor unit. The combination of the outdoor unit and the indoor-fan coil unit shall have a total net cooling capacity of _____ Btuh or greater at conditions of _____ fan speed with entering-air temperature at the evaporator coil of _____ F dry bulb and _____ F wet bulb. Outdoor ambient temperature of air entering the condenser of _____ F.
2. The system shall have a minimum listed SEER (seasonal energy efficiency ratio) of _____ at ARI conditions.

J. Special Features (Field Installed):

Certain features are not applicable when the features designated by * are specified. For assistance in amending the specifications, contact your local representative.

* 1. Internal Condensate Pump:

The condensate pump shall remove condensate from the pan when gravity cannot be used. The lift capability shall be 20 inches. Float control shall be in the condensate sump to shut unit down in case of pump malfunction.

2. Fresh Air Intake Kit:

Kit shall include filter and duct connections to provide for outdoor ventilation air.

3. Indoor Guard Kit:

Kit shall include a guard for the discharge grille to prevent objects from entering the air sweep mechanism.

4. Electronic Programmable Thermostat:

Thermostat shall be commercial grade and shall provide 7-day, 4-event scheduling. Integral subbase shall be included. Thermostat shall also provide 3-speed fan switchover capability, air sweep auto changeover, and shall not require a battery to retain memory.

5. Power Ventilation Kit:

Kit shall be used with the accessory fresh air kit when fresh air must be ducted over long distances. The kit will overcome duct static to provide a constant supply of ventilation air. Kit consists of booster fan and adjustable speed control to properly balance fan to achieve required airflow rate.

6. 24-Hour Automatic Start/Stop Timer:

Device shall provide a minimum 24-hour timer cycle for system auto. start/stop.

COMMERCIAL IN-CEILING CASSETTE FAN COIL

HVAC GUIDE SPECIFICATIONS

SIZE RANGE: 1½ AND 2 TONS COOLING CAPACITY
MODEL NUMBER: 619F

PART 1 — GENERAL

1.01 SYSTEM DESCRIPTION

Indoor, in-the-ceiling-mounted, direct-expansion fan coil to be matched with the 538S commercial condensing unit. Units shall fit standard 2 ft x 4 ft ceiling grid.

1.02 QUALITY ASSURANCE

Unit shall be rated (when matched with appropriate outdoor unit) per ARI Standard 210/240. Units shall be certified by UL and CSA.

1.03 DELIVERY, STORAGE, AND HANDLING

Unit shall be stored and handled per manufacturer's recommendations.

1.04 WARRANTY (For Inclusion By Specifying Engineer).

PART 2 — PRODUCTS

2.01 EQUIPMENT

A. General:

Indoor, direct-expansion, low-profile (11¾-in. high) in-ceiling fan coil. Unit shall come complete with cooling coil, fan, fan motor, piping connectors, electrical controls, condensate pump, and hanging brackets.

B. Unit Cabinet:

Cabinet shall be constructed of zinc-coated steel. Fully insulated discharge and inlet grilles shall be attractively styled, high-impact polystyrene. Cabinet shall have filter tracks and cleanable filters which shall be accessible from below with a ¼-turn fastener. Adjacent room cooling to be provided by a simple knockout in the cabinet side panel, and cabinet shall have provisions to accommodate a limited amount of ductwork, if desired.

C. Fan:

Fan shall be a centrifugal, direct-drive blower type with air intake in center of the unit and discharge on the perimeter. Air louvers shall be adjustable for 2, 3, or 4-way discharge.

D. Coil:

Coil shall be copper tube with aluminum fins and galvanized steel tube sheets. Fins will be bonded to the tubes by mechanical expansion. A drip pan under the coil shall have a factory-installed condensate pump and drain connection for hose attachment to remove condensate.

E. Refrigerant Metering Device:

The unit shall have a refrigerant metering piston and body.

F. Motors:

Motor shall be totally enclosed and permanently lubricated with inherent protection. Fan motor shall be 3-speed.

G. Controls:

Controls shall be 24 v, and shall be easily operated by the user from a wall-mounted control unit. Float control shall be in the condensate sump to shut unit down in case of pump malfunction. A wall-mounted electro-mechanical thermostat with 3 fan speed selections, and an auto./manual switch shall be supplied for field installation. The R-22 refrigerant is controlled with a piston-type refrigerant metering device, and evaporator coil freeze protection shall be provided.

H. Operating Characteristics:

1. The unit shall be matched with an outdoor unit. The combination of the outdoor unit and the indoor-fan coil unit shall have a total net cooling capacity of _____ Btuh or greater at conditions of _____ cfm entering-air temperature at the evaporator coil of _____ F dry bulb and _____ F wet bulb. Outdoor ambient temperature of air entering the condenser of _____ F.
2. The system shall have a minimum listed SEER (seasonal energy efficiency ratio) of _____ at ARI conditions.

I. Thermostat:

The thermostat shall be commercial grade to control unit operation, and shall provide 3-speed fan switch-over capability with continuous and automatic fan operating switch.

J. Special Features (Field Installed):

1. Power Ventilation Kit:

   Kit shall allow ventilation of the conditioned space with outdoor air. The kit shall include filter, booster fan, and controls.

2. Fresh Air Intake Kit:

   Kit shall include filter and duct connections to provide for outdoor ventilation air.

3. Electronic Programmable Thermostat:

   Thermostat shall be commercial grade and shall provide 7-day, 4-event scheduling. Integral subbase shall be included. Thermostat shall also provide 3-speed fan switchover capability, air sweep, auto changeover, and shall not require a battery to retain memory.

4. 24-Hour Automatic Start/Stop Timer:

   Device shall provide a minimum 24-hour timer cycle for system auto. start/stop.

Bryant
Payne
Air Conditioning

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

UNIT MUST BE INSTALLED IN ACCORDANCE
WITH INSTALLATION INSTRUCTIONS

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